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CONTENTS

OF

VOLUME IV.

PAGE

January 25, 1888.—Blood cysts of the ovary, appendages removed for fibroid tumours and hæmorrhage, exhibited by Dr. Granville Bantock 1

Cysts removed from the labia minora, exhibited by Dr. R. T. Smith 6

Inaugural address by the President, Arthur W. Edis, M.D., F.R.C.P., "On the relations of gynæcology to general therapeutics" 7

February 8, 1888.—The diagnosis and electrical treatment of early extra-uterine gestation, by James H. Aveling, M.D. . . 24

February 22, 1888.—Adjourned discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 46

March 14, 1888.—Various electric batteries, exhibited by Messrs. Schall, Coxeter, and Down 66

Purulent peritonitis following delivery, ovaries exhibited by Dr. Savage 66

Pyosalpinx and hæmatosalpinx, exhibited by Dr. Heywood Smith 69

Fibrous tumour of the uterus removed by abdominal section after ineffectual treatment by electricity, exhibited by Dr. R. T. Smith 69

On the action of the constant current on fibroid tumours, by J. Inglis Parsons, M.D. 71

Reports and analyses. 85

Reviews 120

Summary of Gynæcology, including Obstetrics 123

Notes. 153

March 28, 1888.—Adjourned discussion on Dr. Inglis Parson's paper on the action of the constant current on fibroid tumours 155

PAGE

April 11, 1888.—A case in which ruptured tubal pregnancy occurred twice in the same patient, by Lawson Tait, F.R.C.S. . . 178
A number of specimens illustrating diseases of the uterine appendages, exhibited by Dr. Granville Bantock . . . 184
Pyosalpinx, exhibited by Dr. Fancourt Barnes 185
Intra-uterine medication, by Robert Bell, M.D. . . . 189

April 25, 1888.—Hermaphrodite, exhibited by Dr. Fancourt Barnes 205
The sixth case of kolpo-hysterectomy, by F. A. Purcell, M.D. 213
A method of treating incontinence of urine in the female, in cases hitherto considered to be beyond the resources of surgery, by William Alexander, M.D., F.R.C.S. . . . 215

May 9, 1888.—Hemaphrodite (second case) exhibited by Dr. Fancourt Barnes 231
Infantile uterus, exhibited by Dr. Rutherfoord 231
Fibroid tumour removed by supra-vaginal hysterectomy, exhibited by Dr. Bantock 233
Report on Dr. Bantock's specimens of ovarian dermoids, by J. Bland Sutton, F.R.C.S. 235
On cystic disease of the cervix and endometrium, by Richard T. Smith, M.D. 248

May 23, 1888.—A case of complete chronic inversion of the uterus, by Fancourt Barnes, M.D. 258
The treatment of hæmorrhage in uterine fibro-myomata, by Hydrastis Canadensis, by Henry T. Rutherfoord, B.A., M.B. 263
Reviews 272
Summary of Gynæcology, including Obstetrics 276
New inventions. 294
Correspondence. 296
Notes. 297

June 13, 1888.—Fibroid tumours removed by supra-vaginal hysterectomy, two cases, exhibited by Dr. Granville Bantock . . 299
Blood cyst of the ovary and other specimens shown by Dr. Granville Bantock 300
Uterine fibroid removed by supra-vaginal hysterectomy, exhibited by the President. 304
Ruptured tubal pregnancy, exhibited by Mr. Lawson Tait . 306
Two cases of extra-peritoneal cyst, with a tubercular condition of the tubes, exhibited by Mr. Lawson Tait 307
Instrument for the reduction of inversion of the uterus, exhibited by Mr. Lawson Tait 309
Note on the influence of removal of the uterus and its appendages on the sexual appetite, by Lawson Tait, F.R.C.S. . 310

PAGE

June 27, 1888.—Dermoid cyst, exhibited by Dr. R. T. Smith . . 318
Sarcoma of the ovary, exhibited by Dr. Murphy . . . 320
Uterus removed by Péan's operation, exhibited by Dr. Murphy 321
Note of a case of uterine fibroid treated by electricity, by H. T. Rutherfoord, M.B. 323

October 10, 1888.—Fir-cone removed from the vagina, exhibited by Dr. Heywood Smith 336
Ruptured tubal pregnancy, exhibited by Dr. Bantock . . 336
Dermoid tumour of the ovary, exhibited by Dr. Mansell-Moullin 345
Fibroid tumour removed post mortem, exhibited by the President. 345
A case bearing on vicarious menstruation, by J. Inglis Parsons, M.D. 347

October 24, 1888.—Fibro-cystic tumour of the uterus, exhibited by Mr. Lawson Tait 351
Sarcoma of the ovary, by F. A. Purcell, M.D. 353
Ovarian cysts, by J. Bland Sutton, F.R.C.S. 356
Fibroid tumour removed from the fundus uteri after dilatation of the cervix, exhibited by Dr. Bantock 359
Hydronephrosis and pyonephrosis removed by abdominal section, exhibited by Dr. Bantock 360
Case of ovarian tumour with twisted pedicle, by Richard T. Smith, M.D. 366
Reviews 371
Summary of Gynæcology, including Obstetrics 373

November 14, 1888.—Fibroid tumour undergoing calcification, exhibited by Dr. Fancourt Barnes 429
Specimens of salpingitis, exhibited by Dr. Bantock . . 433
Ovarian tumour with twisted pedicle, exhibited by Dr. Bantock 434
Syphon arrangement for washing out the peritoneal cavity, exhibited by Dr. Fenton 440
Sarcoma of right breast, by F. A. Purcell, M.D. . . . 442

November 28, 1888.—Appendages removed for chronic disease, exhibited by Dr. Heywood Smith 445
Fibroma of the nympha, exhibited by Dr. Rutherfoord . . 447
Fœtus with meningocele, exhibited by Dr. Rutherfoord . . 447
Papillary cyst of the hilum, exhibited by Dr. Mansell-Moullin . 449
Fibroid polypi, two cases, exhibited by the President . . 450

PAGE

December 12, 1888.—Pyosalpinx and cystic ovaries, exhibited by Dr. Savage 453
Double pyosalpinx, exhibited by Mr. Lawson Tait . . . 457
Fibroid tumours removed by supra-vaginal hysterectomy, two cases, exhibited by Dr. Bantock 463
Fibroid tumour removed by abdominal section, exhibited by Dr. Fancourt Barnes 466
Treasurer's Report for 1888 467
Reviews 468
Summary of Gynæcology, including Obstetrics 476
Correspondence 494
Notes 495

INDEX 497

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F.F. PRENDERGAST, J. MORGAN, M.D., M.C., M.R.C.S., L.M., The British Hospital, Paris (*temp.*)

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1886 PURDON, RICHARD J., M.D., M.Ch., 14, College Square East, Belfast.

F.F. PUREFOY, RICHARD DANCER, M.B., *Obstetric Surgeon, Adelaide Hospital*, 13, Merrion Square, Dublin. C. 1884.

1887 RAE, GEORGE A., L.R.C.P., L.R.C.S. Ed., 1, Outram Terrace, Stoke, Devonport.

1887 RANNAY, Geo. E., M.D., Lansing, Michigan, U.S.A.

F.F. RASCH, ADOLPHUS A. F., M.D., M.R.C.P., *Physician for Diseases of Women and Children to the German Hospital; Physician to Training Hospital, Tottenham*, 7, South Street, Finsbury, E.C.

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1887 READMAN, T., L.R.C.P. Ed., L.M., &c., Westgate House, Driffield.

1887 REED, CHARLES A. L., M.D., Cincinnati, Ohio.

F.F. REEVES, HENRY ALBERT, F.R.C.S. Edin., *Assistant Surgeon, London Hospital, Surgeon to the Hospital for Women*, 7 Grosvenor Street, W. C. 1884.

F.F. REID, W. LOUDON, M.D. Glas., *Lecturer on Midwifery and Diseases of Women and Children, Western Medical School, Glasgow; Physician to the Glasgow Maternity Hospital*, 7, Royal Crescent, Glasgow. C. 1888.

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Elected

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1888 RICKETTS, E. S., M.D., Portsmouth, Ohio, U.S.A.

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F.F. ROBERTS, THOMAS, L.S.A. Lond., 81, Tredegar Road, Bow, E.

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1888 ROBSON, ARTHUR W. MAYO, F.R.C.S. Eng., L.R.C.P. Lond., Hillary Place, Woodhouse Lane, Leeds.

F.F. ROOTS, WILLIAM HENRY, M.R.C.S. Eng., Kingston-on-Thames.

1885 ROSEBRUGH, JOHN WELLINGTON, M.D., Hamilton, Ont., Canada.

1888 ROSS, JAMES F. W., Wellesley and Sherborne Streets, Toronto, Canada.

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F.F. RUSSELL, LOGAN D. H., M.D., M.R.C.S., Government Park, St. Catherine, Jamaica.

1885 RUTHERFOORD, HENRY TROTTER, B.A., M.B. Cantab., M.R.C.P. Lond., *Assistant Physician to the Chelsea Hospital for Women, Surgeon, Royal Maternity Charity*, 46, Queen Anne Street, W.

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F.F. SAVAGE, THOMAS, M.D., *Surgeon, Birmingham and Midland Hospital*, 32, Newhall Street, Birmingham. C. 1884-6. V.P. 1887.

886 SAWYER, EDWARD WARREN, M.D., 3733, Vincennes Avenue, Chicago, U.S.A.

1887 SHAW, JOHN, M.D. Lond., M.R.C.P. Lond., Burlington House, Willoughby Road, Hampstead, N.W. C. 1888.

F.F. SHAW, JOSEPHUS, M.D., Heidelburg, M.R.C.S. Eng., L.S.A. Lond., 42, Plough Road, Rotherhithe.

1887 SHELEY, P. A., M.D., Shelbyville, Kentucky, U.S.A.

F.F. SHEPPARD, WILLIAM DAVID, L.R.C.P. Edin., L.R.C.S., Cyfarthfa, Merthyr Tydvil, Glamorganshire.

1886 SHERRARD, CÆSAR DUDLEY, L.K.Q.C.P., M.R.C.S., The Avenue, Eastbourne.

1886 SIMMONS, HENRY FOURNESS, M.B., C.M., 30, Alberto Terrace, Darlinghurst, Sydney, New South Wales.

1887 SIMPSON, DAVID, M.B., C.M. Aber., Sumbulpore, Central Provinces, India.

1885 SIMPSON, JAMES HERBERT, M.D. Aberd., The Crescent, Rugby. C. 1887.

1888 SIMPSON, ROBERT MILLS, 84, Mercers' Road, Holloway.

Elected

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1885 SINCLAIR, WILLIAM JAPP, M.D. Aberd., *Physician to the Manchester Southern Hospital*, 268, Oxford Road, Manchester. C. 1887.

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1885 SMITH, HENRY HADLEY, M.D., Sheffield, Mass., U.S.A.

F.F. SMITH, HEYWOOD, M.A., M.D., M.R.C.P., 18, Harley Street, W. Hon. Sec. 1884. C. 1889.

1885 SMITH, HOWARD LYON, L.R.C.P. Lond., M.R.C.S. Eng., 80, Tollington Park, Holloway, N.

1886 SMITH, JAMES, F.F.P.S. Glasg., Snugville, Shanklin Road, Belfast.

1886 SMITH, JAMES GREIG, M.D., *Assistant Surgeon to the Bristol Infirmary*, 16, Victoria Square, Bristol. C. 1887.

F.F. SMITH, PROTHEROE, M.D., M.R.C.P., *Consulting Physician to the Hospital for Women, Soho*, 42, Park Street, Grosvenor Square, W. V. P. 1884

F.F. SMITH, RICHARD T., M.D., *Physician to the Hospital for Women, Soho*, 17, George Street, Hanover Square, W. C. 1884. Hon. Sec. 1889.

F.F. SMITH, R. W. BRUCE, M.D., Seaforth, Ontario, Canada.

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1885 SPEDDING, BENJAMIN HENRY, L.R.C.P., L.R.C.S. Edin., *Lecturer on Diseases of Women at the Ulster Hospital*, 61, Laburnum Terrace, Belfast.

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1888 STORER, ISAAC S., M.D., Lincoln, Virginia, U.S.A.

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Elected

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F.F. *SWEENEY, MICHAEL PATRICK, L.R.C.S.I.

1888 SWERTNAM, LESSLIE MATTHEW, M.D., Toronto, Canada.

1885 TADLOCK, A. B., M.D., Knoxville, Tennessee, U.S.A.

F.F. TAIT, LAWSON, F.R.C.S., *Surgeon to the Birmingham and Midland Hospital for Women*, 7, The Crescent, Birmingham. V.P. 1884-6. Pres. 1886. C. 1887.

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1888 THORBURN, JAMES DAVID, M.B., L.R.C.P., Toronto, Canada.

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F.F. TRAVERS, WILLIAM, M.D., *Physician to the Chelsea Hospital for Women*, 2, Phillimore Gardens, Kensington, W. C. 1884.

1887 UNDERWOOD, EDWARD F., M.D., Fort Bombay, India.

1885 VAN DER VEER, ALBERT, M.D., 28, Eagle Street, Albany, New York, U.S.A.

Elected

1885 WALKER, CHARLES ROTHERHAM, M.D. Brussels, L.R.C.P. Lond., M.R.C.S., Leytonstone, E.

1887 WALKER, FERNANDO F., M.D., New York and Cordova, R.A., Buenos Ayres, Argentine Republic.

1888 WALKER, Dr. Holford, General Hospital, Toronto, Ontario, Canada.

F.F. WALLACE, JOHN, M.D., *Obstetric Physician, Liverpool Royal Infirmary, Professor of Midwifery and Gynæcology, Liverpool Royal Infirmary*, 1, Gambier Terrace, Canning Street, Liverpool. C. 1884-6.

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C. 1884. Hon. Loc. Sec. V.P. 1888.

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1886 WHITTLE, EDWARD GEORGE, M.D. Lond., 65, Dyke Road, Brighton.

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THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, JANUARY 25th, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 27 Fellows, 2 Visitors.

The following were proposed for election:—Dr. G. D. Mackintosh, London; Dr. Charles Horace Barkley, London; Dr. Rothwell Adam, Melbourne.

Dr. BANTOCK brought a number of interesting specimens before the Society:—

Case 1 was that of a woman, æt. thirty, married, having given birth to a five months' fœtus five years ago, recovery after confinement not having been satisfactory. She had been an invalid ever since from severe hæmorrhage, which had not been checked by the various methods of treatment to which she had been subjected. The uterus had been dilated and curetted, but the hæmorrhage had continued. The diagnosis of the case was by no means easy. It was supposed that there was a fibroid tumour of the uterus, and as all treatment, local and constitutional, had failed to relieve, he had suggested opening the abdomen to find out what was really the matter. He did so, and removed the left ovary, in which was

formed a blood-cyst of considerable size, while on the right side there was a large hæmato-salpinx, the ovary on that side being also very much enlarged. These were very adherent, and the peritoneal cavity had to be washed out and drained. The progress of the case, after the operation, was eminently satisfactory, but he was disappointed to find that the patient had not got rid of the hæmorrhage. Menstruation had returned and was very excessive. The tubes were removed as close as possible to the uterus. He alluded to the observations of Dr. Johnson, of Danville, Kentucky, in which it was shewn that the application of ligature close to the uterus was likely to check hæmorrhage. He said that the failure in this case might be due to the imperfect application of the ligatures, although he had endeavoured to apply the ligatures as near to the uterus as possible, or, it might be due to some conditions of the uterus; this the future would show.

Case 2 was one of blood cyst of the left ovary. He shewed the sac of the ovary, which had been considerably reduced in size from shrinkage. It had contained five or six ounces of liquid blood, and was very adherent. On the right side there was a hydro-salpinx with enlarged ovary. In that case also, it had been necessary to wash out the peritoneum and drain. The result of the operation was perfectly satisfactory, the operation having been performed on November 30th.

Case 3 was one of removal of the appendages for fibroid tumour and hæmorrhage. That case was interesting from the condition of the Fallopian tube. The appearance of the specimens gave no idea of its appearance at the time of removal. The sacculated left tube exactly resembled a knuckle of intestine greatly distended, with semi-transparent walls. Adhesions added greatly to the difficulty of the operation. On the other side the ovary was large and succulent, and contained a cyst, and the tube was thickened and tortuous. The patient had had a number of children, and was forty-six years of age. The hæmorrhage was troublesome, and he could suggest nothing but removal of

the appendages to check it. He, however, had not anticipated finding anything of the kind he saw on operating. The tumour filled the cavity of the pelvis, and rendered it very difficult to provide for drainage. He was obliged to put a tube down the right side of the uterus, and this he removed three days later. The patient did well.

Case 4. The next case was in many respects the most interesting. The history was that of an extra-uterine pregnancy. The patient had been operated on eight years ago by Dr. Savage, of Birmingham, for an ovarian tumour of a small size, which he removed. She was then seventeen years of age. A year ago she married, and three months ago menstruation ceased. On lifting a weight, one day, she felt a sharp pain and became ill, being obliged to keep her bed, and having a high temperature. When he first saw her on admission he found a tumour on the right side of the uterus, appearing over the fundus uteri, and apparently dipping down into Douglas' pouch behind. It could be distinctly felt over the pubes, but there was a clear resonant note over the tumour, rendering the diagnosis somewhat obscure. This was subsequently accounted for by the discovery that the cœcum was adherent to the front of the tumour and over the right half of the fundus uteri, and had to be separated during the operation. First of all he found a cystic tumour about the size of a goose's egg, which burst when he began to break down the adhesions, giving exit to a quantity of thin black liquid blood. It then became difficult to trace the cyst wall, and he found nearer the fundus of the uterus a hard body, which he proceeded at once to separate. He brought out a clot of blood about three inches long, and the size and shape of a large sausage, composed of solid clotted blood, perfectly black in the interior. Having taken that away he came upon the collapsed cyst, but he could hardly imagine that the large clot he had removed had come out of it, although that was possible—at any rate in part. He then produced what was evidently the remains of the ovary. The difficulty then was to get hold of the tube. It was so adherent right down on

Douglas' pouch, that he had lost all trace of its outline. It was almost impossible to get it away, and he was only enabled to do it by the aid of a pair of forceps. Ultimately he got hold of the fimbriated extremity which had become attached to the broad ligament. At the bottom of Douglas' pouch his finger slipped into a cavity, which he thought was the vagina, only the passage of Mr. Meredith's finger into the vagina convincing him of the error. He broke down the adhesions between this cavity and the pelvis, and cleared it out. He said that he wished to call attention to the use of the stream of water in cleansing the pelvis. It would have been impossible by means of sponges, which, moreover, by damaging the tissues might have increased the bleeding. A drainage tube was put in. The operation was performed on the 18th inst., and the patient had progressed so satisfactorily that she was in the convalescent ward. No trace was found of anything in the nature of an extra-uterine fœtation.

Dr. ROUTH asked whether the removal of the appendages in the third case had checked the hæmorrhage.

Dr. BANTOCK replied that the operation was performed on the 15th of last month, and although, so far, there had been no return of the hæmorrhage, it was rather premature to affirm that it had done so definitely.

Dr. EDIS (President), observed that one often regretted that such cases as those brought before the Society by Dr. Bantock had not been embodied in a paper, together with the life history of the patient, &c. What they all wanted was clinical information, and interesting as were the specimens, they failed to afford this particular information.

Dr. ROUTH said that, in reference to Dr. Bantock's remarks as to cutting off the tube close to the uterus not arresting the bleeding, Mr. Lawson Tait had stated definitely that in the case in which he had failed to arrest the hæmorrhage, it was due to that very reason. He asked whether, in regard to that case, Dr. Bantock had satisfied himself that there was no growth in the uterus itself. He alluded to a case under his care in which the patient had one of the largest

fibroid tumours he had ever seen, reaching to the diaphragm. She did not suffer much from hæmorrhage, and had always refused surgical interference. By and by she was seized with profuse hæmorrhage, and this he had found was due to some small unicorn polypi of the uterus, the removal of which stopped the hæmorrhage. He pointed out that there were hundreds of cases of fibroid tumours of the uterus unaccompanied by hæmorrhage, but when hæmorrhage did take place, they generally put it down to the tumours, and he suggested that they ought always to examine the cavity of the uterus before proceeding to the abdomen operation. He thought that this might account for the favourable result of electrical treatment in such cases.

Mr. BLAND SUTTON pointed out that in one case the fact that the tubes had not been removed close to the uterus had been verified when the fundus uteri was subsequently removed. On that occasion the remaining tube was found to have re-dilated and formed a secondary hæmato-salpinx. He asked Dr. Bantock what was the temperature of the water used, and whether it was hot enough to have a hæmostyptic action?

Dr. R. T. SMITH asked Dr. Bantock to be kind enough to give the clinical symptoms of the second case; and in reference to the fourth case, what was the size of the uterus? He said that the difficulty was to decide when to do the operation, and it would be a very great advantage to have a clearer clinical history. Two years ago he had a case in the hospital with flooding of four months' standing. He had tried almost everything to stop it—he had dilated the uterus and found some little cystic growths. For three days the patient remained in bed and had no symptoms whatever, but on the fourth day she had a rigor, and a temperature of 105°F., and died in about six hours. At the post mortem he found a small abscess in the left ovary, which bore the appearance of having been there some time. Not more than a month ago he had a very similar case in a young woman of 21, who had been bleeding for three months. He dilated the

uterus with every care and applied matico, and again, in two days that patient died from profuse hæmorrhage, which nothing would stop. At the post mortem he had found slight cystic disease of the ovaries.

Dr. BANTOCK, in reply, reminded Dr. Routh that in the case alluded to the uterus had been subjected to dilatation and cureltage without effect, before he was called in. He was glad he had not attempted to repeat it when he found out the condition of the left ovary and tubes, for it might have lighted up some active mischief in the diseased organs, as in the cases just related by Dr. R. T. Smith. He had also explained, in reference to this case, that he did not know whether the recurrence of the hæmorrhage was due to a failure to secure the root of the tubes or to intra-uterine growths. He did not hesitate at present to dilate now that he had removed all diseased factors from the pelvis. As to the action of the electric current, he had already stated that the galvano-caustic action might be of service like cureltage, followed by a strong solution of iodine. In answer to Mr. Sutton's question, he said that he used hot water, primarily for cleansing purposes, but he always used it as hot as he could bear it with his hand, probably from 110° to 115°—certainly not exceeding 120°. In answer to Dr. Smith, the clinical symptoms were painful dysmenorrhœa and the presence of something in the pelvis. With reference to the last case, menstruation had only ceased two months, so that no great increase in size of the uterus could be expected.

Dr. R. T. SMITH shewed two cysts which he had removed from the labia minora of a woman of 28, who had had a child eleven years previously. They were within a third of an inch of the clitoris, and he said that he had never seen them in that situation before, and certainly not one on either side.

Mr. BLAND SUTTON observed that the site was one where dermoid sebaceous cysts might be met with. Those produced were of a mucous description.

Dr. J. A. MANSELL MOULLIN said he remembered some of the kind being shewn at the Obstetrical Society some time

ago. He asked Mr. Smith his opinion as to the etiology of these cysts, they being generally considered to be due to injury.

Dr. EDIS (President), commended the treatment, less heroic measures often failing to relieve. He had removed one a few days ago from the anterior wall of the vagina, and although the mode of removal might differ, he believed that removal was after all the proper course.

Mr. SMITH, in reply, said there was no history of injury, but the patient had acute retroflexion of the uterus with leucorrhœa.

The PRESIDENT then delivered the following inaugural address:—

On the Relations of Gynæcology to General Therapeutics.

GENTLEMEN,—My first and foremost duty, as President of this Society, is to tender you my most sincere and cordial thanks for the honour you have conferred upon me in electing me to the post, and to assure you that I will at all times do my utmost to uphold the dignity of the office and promote the interests and well-being of the Society by every means in my power.

If the continued success depended solely upon my own individual exertions, I might well hesitate in accepting such a position of trust. But I feel sure that those who have hitherto assisted so materially in establishing the Society, will still continue to help us in our need, and that others also, who have recently joined our ranks, will do all in their power to lighten my labours during my term of office, and enlarge the usefulness of this most successful Society.

As president of a society specially formed for the encouragement and advance of the study of Gynæcology, it may appear anomalous to some that I should venture to suggest even a hint that in directing our attention to this speciality we must be careful lest we degenerate into a society of specialists who practise their specialism to the exclusion of all else. A specialist, in its only true sense, should be one who is a good all-round surgeon and physician, and something

more; one who pays special attention to a subject, and who consequently attains superior knowledge of it, and greater skill in dealing with it. So long as the human mind remains as limited in its capacity as it is, in the large majority of men, and the field of study so vast, no one brain can contain or master the whole art and science of medicine.

The noblest work that has been done in the world has been effected by men who had the power of concentrating their attention on one subject. And yet the claims of general practice, although they may prevent any one individual from becoming a so-called pure specialist, may yet enable him to do much honest work in this department, and even assist the pure specialist in noting the conditions which produce or at least aggravate the tendency to the development of any given disorder. But the practitioner must avoid studiously falling into the error of trying to acquire "special tips" for special symptoms, whether by skimming the cream from communications to the weekly journals or from discussions at meetings of societies.

It is curious to note the narrow views of specialism held by some whose opportunities of studying disease from a general standpoint should guard them from that fallacy.

A patient presents herself complaining of inordinate menstruation, occurring too frequently or in too profuse a quantity. Straightway, without sufficiently enquiring into the probable causes of this and endeavouring to ascertain the conditions which have led up to this result, some accredited formula, such as sulphuric or gallic acid, ergot or hazeline, acetate of lead and opium, or some favourite or fashionable remedy, is prescribed and success confidently predicted. As time wears on and the promised improvement does not take place, the patient appeals to some specialist, thinking that some actual disease of the womb must be present.

Before even resorting to any local examination the habits of the patient are enquired into, the condition of the heart and lungs, liver and other abdominal organs examined, and every effort made to solve what may at first prove to be a

very difficult problem. Habitual constipation, hepatic congestion, from a too frequent resort to the use of stimulants, want of appropriate exercise, and neglect of all the ordinary hygienic precautions to preserve the body in a healthy condition, soon throw a fresh complexion upon the nature of the case. A few grains of calomel, some saline aperient, abstention from alcohol, and attention to simple hygienic details, soon obviate the necessity of nature lessening the arterial tension by using the uterine mucous membrane as a safety valve. The specialist here has had to rely upon his knowledge of general medicine in order to enable him to relieve the patient.

Not infrequently, patients are sent on for examination, where it is thought there must be some uterine disorder to account for the excessive losses at the menstrual periods, when the only lesion detected is some overlooked mitral incapacity, for which, unwittingly, stimulants have been ordered with no sparing hand.

The withdrawal or diminution of these, with the administration of digitalis, strophanthus or other similar remedy, and instructions as to regulating their mode of life, soon change the complexion of affairs, and lessen materially the menorrhagia, without any uterine treatment whatever.

"What is a good thing for menorrhagia?" is a question I have been repeatedly asked, until, really, I am almost tired of explaining that menorrhagia is only a symptom, and until we have found out the cause, treatment is liable to be worse than useless.

Again with dysmenorrhœa. This is but a symptom of many and various conditions, not only of the uterus and appendages, but also of the general health, and yet I am frequently asked, "What is the best thing for dysmenorrhœa?"

Any condition of the general health interfering with the due co-relation of the several functions, so as to produce anæmia, may be the exciting cause. Any abnormal condition of the uterus itself, or of the ovaries or tubes, may also give rise to dysmenorrhœa. A combination of two or more

of these conditions will of course, *pro tanto*, be more likely to give rise to it.

Before prescribing, therefore, for these cases, we must endeavour to form some rational conclusion as to what are the predisposing and exciting causes producing it.

Some case successfully treated, by some recent or forgotten drug, is published in the Journal, and straightway every succeeding case of dysmenorrhœa is treated by the same agent. I have seen instances of pain at the menstrual period coming on towards the climacteric age, due really to incipient malignant degeneration, treated by three-drop doses of tincture of pulsatilla.

Again, I have witnessed simple cases of dysmenorrhœa, due more to anæmia, imperfect nutrition, and improper clothing, where the patient has been gravely recommended to submit to some surgical operation, such as division of the cervix, or the wearing of a stem.

The tendency of gynæcology for many years past has been to advance in a surgical direction, and unquestionably much has been gained by this.

Cases which, scarce a generation ago, were regarded as hopeless, over which medicine had no power, either to control the growth of tumours, or prevent a fatal issue, are now rescued from their impending fate, and restored to health and usefulness. The triumphs of abdominal surgery are still the wonder of the age. Ovariotomy alone has been the means of saving countless thousands of lives. Removal of the uterine appendages, whether in the case of bleeding myoma or chronic incurable diseases of the ovaries or tubes, has enabled the surgeon to convert useless, suffering and miserable invalids into useful members of society, able to earn their own living, or to fulfil the duties of their station, with comfort and freedom from suffering. The surgical treatment of extra-uterine gestation, bold in its conception, and successful in its issue, appeals alike to the profession and the public. Shortening of the round ligaments; raising the prolapsed ovaries, and attaching them to the parietes by a plastic operation; repair-

ing the ruptured perineum; removing the hypertrophied cervix uteri; or restoring it to its normal condition, when laceration has occurred, by the operation of trachelorraphy; constricting the vaginal passage by colporrhaphy, when it has become so lax as to cause considerable discomfort, and allow the uterus to be prolapsed even beyond the vulval orifice; all these, and many other operations of a like nature may well be quoted as evidence of my original statement. Emboldened by the success attained by gynæcologists in their operative treatment, the general surgeon has ventured on abdominal section for tubercular peritonitis, for intraperitoneal injury, chronic intestinal obstruction, and other similar conditions. And yet, after all, it is not every case we are consulted about that can by any ingenuity be brought to a surgical conclusion. The triumphs of surgery are great, and not infrequently witnessed by many, whether in the operating theatre or as specimens exhibited at our meetings, but we hear little of the cases which have been safely conducted to a satisfactory issue in the quiet seclusion of the bed chamber.

In my winter wanderings in the sunny south, I came across an old trophy of a bye-gone age, in the shape of a cannon, upon which was engraved "ultima ratio regum"—the last appeal of kings—a symbol to my mind of what operations are in our profession. Before cannon are brought into requisition what an amount of diplomacy has been exerted to avoid the necessity of appealing to such noisy and often unnecessary means. Sir James Paget has well remarked that "the good that medicine and surgery may do is not half estimated by bills of mortality, which prove only an average greater length of life. More good is done by making a larger part of each life more fit for working; and in this may be a measure of utility such as may be unmatched in any other calling." Possibly, years hence, when gynæcology is systematically taught in our medical schools as an integral part of medical education, when conservative surgery has advanced further towards preventive medicine, we shall be enabled to prevent the development, or retard the progress

of numerous conditions incidental to the female sex, which now inevitably eventuate in surgical interference.

Our practice in many instances does not keep pace with our knowledge. As a fact, we know that the process of involution of the uterus, subsequent to delivery, takes at least six weeks under favourable circumstances, and still longer in anæmic, underfed, or unhealthy patients, where the hygienic surroundings are unsatisfactory. And yet we keep still to the traditions of the past, and allow our patients to get up after the ninth day, provided there is no hæmorrhage or elevation of temperature to suggest a more prolonged recumbency.

Can it be doubted that we have here a most potent factor in the production of uterine disorders? The heavy sub-involuted uterus not only drags upon the already weakened and distended ligaments and supports, giving rise to prolapsus, retroversion or other displacement, but also tends to remain in the same enlarged condition indefinitely; nor is this all, the ovaries are too often dragged down, and in place of remaining in a position of safety, become irritated and inflamed, and so cause considerable discomfort.

In case of premature expulsion of the ovum, so called miscarriages, the matter is still worse. The patient is allowed to return to her domestic duties within a few days, long before the uterus can have a chance of recovering itself, and thus much future suffering is entailed upon the patient, and a long series of uterine disorders induced.

The importance of taking extra precautions as to exposure to cold, or wet, or over-fatigue, at the times of the ordinary periodical congestion, which occurs monthly, is not often sufficiently considered. Many cases of dysmenorrhœa and menorrhagia are unquestionably due to want of proper care at these times.

Even the growth of myomata of the uterus, apart altogether from the more direct method of treatment, may be lessened or retarded by attention to numerous details as to diet and hygienic management, such as abstention from alcohol, lessening the amount of nitrogenous food, preventing congestion

of the pelvic organs by wearing appropriate clothing, and refraining from unnecessary fatigue or exertion at the ordinary monthly periods; regulating the bowels, administering ergot, and improving the tone of the general health by means of such remedies as quinine, arsenic, strychnia, and other agents of this class.

Many of our fair patients are in the habit weekly of confessing openly that "they have left undone those things which they ought to have done and done those things which they ought not to have done and there is no health in them"—without seeing the hidden meaning clearly intended to be understanded of the people by the old divines who compiled our liturgy.

And yet if we strive to impress upon our patients that many of their sufferings are but the outcome and natural sequence of their daily habits, and could be obviated by attention to hygienic details, they are like the mighty man of valour, recorded in Holy Writ, Naaman, captain of the host of the King of Syria who, when told to go and wash in Jordan seven times and be clean, was wroth and went away.

He expected the prophet to come out to him, and call upon the name of his God and strike his hand over the place and recover the leper. Even the very argument he used: "Are not Abana and Pharpar, rivers of Damascus, better than all the waters of Israel? may I not wash in them and be clean?" is one patients are frequently in the habit of using—although possibly not in such striking language; and it is not until the silent voice of conscience, or the pleading of some intimate friend reasoning with them, "had the prophet bid thee do some great thing, wouldst thou not have done it? how much rather then when he saith unto thee 'Wash and be clean,'" that they can be persuaded to follow the example of Naaman, and do exactly what they had at first been bidden to do—wash and *be* clean.

In the study of gynæcology, too much stress cannot be laid upon the extreme importance of forming a correct diagnosis. We should at all times endeavour to ascertain "the truth, the whole truth and nothing but the truth."

It is not necessary to confine one's attention to the *position* of the uterus, when possibly its *condition* is of far more importance. Nor should we rest content merely with detecting a retroflexion of the uterus, when it may be some old-standing pyo-salpinx or cirrhotic condition of the ovary is really the chief cause of the patient's suffering. How often has a conical cervix—the supposed cause of dysmenorrhœa and sterility—been divided, with an implied, if not clearly expressed promise, that this would remove all further suffering—when an overlooked "matting" of the ovaries and Fallopian tubes, from former inflammatory mischief, proved to be the real cause of the patient's discomfort. How frequently do we see instances, where the ovaries and tubes have been removed—and rightly so—for some long-standing pelvic trouble, and yet the condition of the patient some months afterwards is not anything like as favourable as we were led to predict. And why? because some chronic uterine trouble, co-existent with the ovarian mischief, has been overlooked or not attended to, and now interferes with the perfect convalescence of the patient, and robs the gynæcologist of his full measure of credit, and in some cases unquestionably brings the operation of removal of the appendages into needless discredit.

One almost needs to serve an apprenticeship to a bill discounter to enable one to estimate at their proper value the drafts on his credulity, which are often tendered for acceptance by patients as to the amount of pain they suffer. It would be well if we could invent a *dolorometer* to gauge precisely the character, duration, intensity or degree of pain.

Women, speaking generally, feel pain more than men do; patient as they are, they seem to have less reserve of force and less resistance, more susceptibility and resentment, and less capacity.

Some practitioners would appear to be almost colour blind before the more subtle shades of feeling, and to have the most hazy notions as to the degree of pain intended to be conveyed to their understandings by the statements of

the patients, being content to describe everything as a great pain. It may not be as big as a barn door, nor as deep as a well, but it still serves to wholly unfit the patient for any consecutive tax upon her powers.

Much has yet to be written upon the reflex symptoms due to uterine derangements. The synergic action between the stomach and the uterus, both as regards secretion, sensation, and motor action, are amongst the most remarkable phenomena of reflex nervous action. Nature gives us a very palpable illustration of this in the morning sickness of pregnancy. Bismuth, hydrocianic acid, ingluvin, oxalate of cerium and other vaunted specifics are poured into the stomach, whose only fault is a too manifest sympathy with its suffering neighbour lower down, without producing any but a temporary relief to the vomiting. The application of a solution of cocaine to the cervix uteri, or of acid carbolic, nitrate of silver, or other appropriate remedy, or the introduction of a morphia suppository into the vagina, serves to relieve the troublesome sickness and enables the patient to retain nourishment.

In cases, however, of chronic metritis where nausea or sickness is a prominent symptom, we fail to notice the analogy between these cases and those just mentioned, and direct our efforts mainly to improving the action of the liver, or drugging the too sympathetic friend, before alluded to, in place of treating the diseased condition of the uterus, which is really the *fons et origo mali.*

Instances could be cited of patients suffering apparently from dyspepsia, where long diet lists and lengthy prescriptions, tried patiently for many consecutive months, and, in some cases, years, had failed utterly in affording relief, but whose dyspeptic symptoms were at once removed when the uterine trouble was attended to.

Mr. Henry Power in his recent Bowman lecture, "On the Relation of Ophthalmic Disease to certain Normal and Pathological Conditions of the Sexual Organs," has done good service in directing the attention of practitioners to this important subject.

The proneness of the disease to attack the robust and strong, its insidious onset, its stealthy progress, the enormous importance of a correct diagnosis in the early stages of the malady, the extreme gravity of the issues at stake in its proper treatment, and the unerring certainty of its result unless successfully dealt with in its earliest stages, should all conspire to quicken our intelligence and give to the subject that earnest consideration which its importance demands.

> Oh, the little less and how much it is,
> And the little more and what worlds away.

The subject of electrotheraphy in gynæcology, recently brought prominently forward by Dr. Apostoli, is one that will not fail to attract considerable attention, and those who have the opportunity of carrying out this method will be doing us good service in recording their observations from time to time. So many communications upon the subject have been published recently in our medical journals, that it will be needless for me to attempt even to sketch the indications for the employment of electricity. Not only are we promised the dispersal of fibroid tumours and the arrest of hæmorrhage by its influence, but also the resolution of peri-uterine inflammations and the relief of ovarian pain, so as to preclude the necessity of removal of the appendages. Amenorrhœa, dysmenorrhœa and menorrhagia are amenable to its influence. The most obstinate pruritus has been cured by a single application. Constipation and dysuria have been rapidly relieved, after resisting the usual remedies. Those who have given attention to the subject speak most enthusiastically of its influence as a nerve sedative, and a stimulant, a muscle contractor, and antispasmodic, an anti-phlogistic and counter-irritant, a vesicant, a tonic and promoter of development, an absorbent, chemical cautery and escharotic, electrolytic, hæmostatic, and decongester. In fact we are forcibly reminded of the man who wrote an essay "*de omnibus rebus et quibusdam aliis.*" The programme is so vast, and the power of the agent so infinite, that sceptics are inclined to discount the statements made,

and to disbelieve in the utility of electricity at all. But there can be no doubt that when we have fully mastered the details and are in a position to give our patients the full benefit, without any of the risks attending its too intemperate use, electricity will prove of considerable value in the treatment of diseases of women. A society like ours offers unusual facilities for considering a subject like this, and I am pleased to tell you that an evening has been arranged for the discussion of this new method of treatment.

In the interests of gynæcology it would be well if those who have had the opportunity of studying the effects of remedies upon varying conditions met with in daily practice, would communicate the result of their observations. Not only does this apply to the effects of new remedies, but also to the influence exerted by well-recognised agents, the forms in which their best effects may be obtained and their deleterious action minimized. The list at our disposal is far too small, and our knowledge of their action far too inexact. Much could be done in this respect by careful clinical observation, recording minutely the symptoms and how these were modified or relieved, not by a combination of half a dozen different drugs, as is too often the case, but by some specially selected one, given with the definite idea of testing its true value under certain well-defined conditions.

I would here suggest that modern pharmacology offers us not only a far larger asssortment of drugs, but a much greater variety in the mode of their administration than was formerly the case. May I further hint, in the interests of the patients, that it is well, whenever it can be so arranged, to leave the culinary department of the organism free for its intended purposes, and not convert it into a drug store for the reception of nauseating compounds. There are many and various methods of applying remedies directly to the locality affected, which should always be resorted to when feasible. Rectal and vaginal suppositories or pessaries, injections and enemata, hypodermic injections, local applications, whether as plaisters, fomentations or poultices, or applied to

a blistered surface, medicated baths and fumigations, or as local applications to the cervix uteri, may all be tried in appropriate cases.

Within the last few days I have seen a patient whose bowels were so intractable, that she had frequently taken as many as ten purgative pills without obtaining the desired relief, where the injection of merely one drachm of glycerine into the rectum accomplished the object sought "*tuto, cito et jucunde*" within a few minutes. The influence of this small quantity of glycerine is marvellous—I have tried it in the most varied cases and found it invaluable. Let me commend it to your attention, in the interests of many long-suffering and much-physicked patients.

Why in painful pelvic disorders, opium or morphia should still be administered by the mouth, I fail to realize. Morphia suppositories, either vaginal or rectal, will generally serve to allay the pain, and leave the stomach free to digest nourishment.

I am certain that in many critical cases, where the life of the patient often hangs upon her powers of assimilating nourishment, we do much harm by drugging the stomach with opiates unnecessarily and unreasonably. We first impair the digestive capacity of the stomach by drugs, and then attempt to convert the rectum into a stomach by injections or suppositories of peptonized materials.

Although, as a rule, I seldom prescribe plaisters, considering their application uncleanly and unnecessary, I am bound to confess that in some cases of backache, which medicine fails to relieve, and other conditions of so-called ovarian neuralgia, a belladonna or some stimulating plaister proves of much service. I can call to mind an instance of one of the leading surgeons of London, who shortly before his death was much troubled with so-called muscular rheumatism of the shoulder. An appeal from one to the other of his medical colleagues, and a resort to all the usual medicaments prescribed in such cases failing utterly to afford the least relief, he took upon himself the responsibility of applying an ordinary plaister, which removed the pain at once.

May I suggest to those whose opportunities of operating are few and far between, and who, therefore, are not in a position to present us with "specimens," that they would confer a real benefit upon the Society by presenting brief, but at the same time careful and exact, notes of the action of drugs under varying conditions, and in well-defined cases. Fellows of this Society, engaged in the busy routine of every-day practice, have opportunities of watching the effects of medicines too often denied to those who are practising as pure gynæcologists. We prescribe medicines, but it is not always that we are enabled to record whether these have accomplished the object intended, or whether they have failed entirely to afford relief. If successful, patients do not deem it worth while returning merely to inform us of the result; perchance one grateful patient may now and again inform us of the success of our venture, but we feel inclined to ask were there not ten that were healed, but where are the nine?

Not long since I met at a social gathering a lady who reminded me that some ten years ago she consulted me for "distracting neuralgia" of several months' standing, which no one she had consulted had been able to relieve her of. It so happened that the prescription I gave her acted like a charm and the neuralgia was soon a thing of the past. In mentioning the subject to me she further added, "I should think I must have given copies of that prescription to at least twenty people, and it has never failed"—a strange way, I thought, of showing gratitude—but yet had it not been for my meeting her accidentally, I should never have learned what a valuable remedy I had prescribed, nor what a miserable return I had received for my prescription.

There are numerous drugs constantly being submitted to the profession, whose action requires careful watching, under many and varied conditions, before we are in a position to estimate their real worth. This the practitioner has unusual facilities of doing, and if he would only submit the result of his observations to the Society from time to time, it would prove of much value and interest.

Antipyrin is a remedy that bids fair to prove of great service in our special department. M. Chouppe has shown that it tends to relieve the pain caused by the uterine contraction, which is caused by ergot, without diminishing the contraction. He believes that it acts upon the spinal cord, and might be administered with advantage during parturition to women of an irritable temperament. I have given it in cases of dysmenorrhœa, where no definite uterine disorder existed, and have met with sufficient encouragement to induce me to try it more extensively. It seems to act in some cases more like bromide of potassium, allaying nervous irritability, relieving pain, and encouraging sleep.

Given with a view to diminishing the temperature in puerperal conditions, it has proved very satisfactory, and well deserves further trial. In megrim and other nervous conditions it has been highly spoken of, and I commend it to your attention for careful study, in the hope that some one amongst you will give us a report upon his experience of the drug, before my term of office expires. I mention antipyrin, but there are numerous others worthy of your consideration, and deserving of a fair trial.

"Tempora mutantur et nos mutamur in illis." Hot douching and glycerine tampons have had their day, and now we are recommended to try the dry treatment in gynæcology.

One of our foreign fellows, Professor Engelman, of St. Louis, in the June number of the American *Journal of Obstetrics*, contributed an exhaustive paper on the subject, which does not seem to have met with the notice which the importance of the subject demands. I have been trying it recently and find in some cases the method is exceedingly useful, and for this reason I venture in a few words to direct your attention to it. In place of glycerine, powders, such as bismuth, iodoform, boracic acid, borax, alum, tannin, oxide of zinc, soda and others are employed. These are applied either by the aid of an insufflator or blower, or incorporated in cotton wool tampons, or placed bodily in the

vagina and kept in by means of a tampon. The tampons are allowed to remain in for thirty-six to forty-eight hours.

The pressure of the tampon affords an excellent support to any prolapsed ovary, which will not bear the pressure of a pessary, diminishes the venous congestion of the pelvic organs, keeps the uterus in a normal position, and also lessens the strain upon the ligaments and vaginal walls, thus affording opportunity for the tissues to recover. Where excessive secretion from the vagina or the vaginal portion of the cervix exists, the influence of bismuth and boracic acid is really surprising. Cases which ordinarily take several weeks to improve by douchings and applications, can be cured effectually in a far shorter time by the dry process. I desire only to draw attention to this now, but shall hope to give a more detailed account later on.

And now, gentlemen, I will bring my remarks to a close, for I have already trespassed too much upon your patience and attention. Much has yet to be accomplished in gynæcology before we can sit down satisfied that we have learnt all that is necessary, and have attained to such skill in diagnosis and treatment that we have nothing more to desire. Only by patient, systematic, painstaking record of our experience can we hope to increase our knowledge of this special subject, and thus be enabled to mitigate or prevent the diseases incidental to women. Ordinary faculties exercised with vigilance, and in an honest, independent, enquiring spirit, are certain of some measure of success, and often of a large measure. Nothing is denied to well-directed labour, nothing is to be attained without it.

Dr. BANTOCK proposed a vote of thanks to the President for the able address they had just heard. This was carried by acclamation.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, FEBRUARY 8, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., IN THE CHAIR.

PRESENT: 36 Fellows, 8 Visitors.

The following were elected Fellows of the Society:—Dr. G. D. Mackintosh, Dr. C. H. Barkley, Dr. G. R. Adam.

The following were proposed for election:—Dr. Edwin A. Neatby, London; Dr. Hamilton, Tenby.

The PRESIDENT said that, contrary to the usual custom, he would first call on Dr. Aveling to read a paper on "The Diagnosis and Electrical Treatment of Early Extra-uterine Gestation," after which Mr. Lawson Tait would show a remarkable collection of specimens bearing on the subject before the discussion on the paper of the evening was commenced.

The Diagnosis and Electrical Treatment of Early Extra-uterine Gestation. By JAMES H. AVELING, M.D., Consulting Physician to the Chelsea Hospital for Women.

NOW that misplaced pregnancy is receiving considerable attention, I am happy to have the opportunity of saying a few words in support of the electrical treatment of this deathful accident. It is remarkable the apathy with which such a successful mode of dealing with ectopic gestation has been received in Europe. Although first suggested by a Frenchman, and first practically carried out by an Italian, to the Americans is due the credit of having popularised and estab-

lished, beyond controversy, the efficacy of the electrical treatment of extra-uterine gestation.

Notwithstanding the fact, that it is more than thirty years since electricity was first purposely[1] employed as a fœticide, it received little attention until Dr. J. G. Allen related, in 1872, to the Philadelphia Obstetrical Society, a case in which he succeeded in arresting an ectopic pregnancy by Faradization. Some Americans, including Dr. T. G. Thomas, attribute the whole credit of this mode of treatment to Dr. Allen, but to this he is not entitled. Rachetti was the first to employ it. Dr. Braxton Hicks used it in 1866, and to him is due the kudos of being the first to suggest the adoption of vaginal and abdominal electrodes, instead of puncturing the sac with needles. It is disappointing to think how near Dr. Hicks was to perfecting and establishing the proper plan of treatment. A little more perseverance, and he would have saved his patient's life and secured another splendid addition to his already great reputation. Time will not permit me to speak of the numerous cases published by American gynæcologists in which tubal pregnancy has been arrested by electricity. They may be found in the transactions of the American Gynæcological Society, and in the American *Journal of Obstetrics*. In this country, however, the literature of the subject is so scanty that I may refer to it to show how little we have understood, appreciated, and benefited by the work of our American brethren.

After Dr. Hicks' case the electrical treatment of extra-uterine gestation seems to have slumbered with us until 1883, when Dr. Matthews Duncan, assisted by Dr. Steavenson, used it. The pregnancy had arrived at the fifth month. Dr. Steavenson began well. He used the Faradic current and vaginal and abdominal electrodes, but he allowed the current to pass for only two seconds, and then stopped for intervals of a minute and a half. This did not cause the death of the

[1] Dr. David Davis mentions a case in which death of a four months' fœtus was caused by electricity.—*Obstetric Medicine*, 1836, 4th p. 317.

fœtus, and the reason will be evident when I explain later on the way in which I believe electricity acts as a fœticide. This plan failing, he next tried galvano-puncture. Two needles were introduced, and a current from forty cells was passed for six minutes. The effects of this was, Dr. Duncan says, "tremendous." At the post-mortem, for the woman died a few days after, the fœtus was found with the bones extensively laid bare, the tissues in a great part dissolved, and the heart hardly recognisable.

Last year another case was recorded in which the fatal galvano-puncture was employed. Dr. Percy Boulton, advised and assisted by Dr. Steavenson, was the operator. The tubal pregnancy had existed for about two months, and it was a most suitable case for electrical treatment. These gentlemen seemed to think they were acting upon the plan generally adopted by American gynæcologists, but they were mistaken, for no counterpart of such a formidable operation as was then employed can be found in the medical journals of America. Three needles, of improper metal, were inserted, and used with the positive pole of a thirty-cell constant-current battery. This was like using a steam-hammer to drive a tin tack. Experience had already shown that in most cases a moderate Faradic current was sufficient to kill the fœtus in early gestation, and that the employment of such strong means was quite unnecessary. The mother died, and now Dr. Boulton is converted to the use of the Faradic current.[1]

I am exceedingly anxious that another eminent gynæcologist should be converted to the use of electricity in these cases, for I fear his uncompromising opposition may delay the use of it in this country. Mr. Lawson Tait has not given as much attention to the ante-rupture stage of ectopic gestation as to the post rupture period. The brilliant results of

[1] It is to be regretted that Dr. Apostoli should have advised the use of electro-puncture in these cases, but he acknowledges it to be only a suggestion, he has never employed it.—*American Gynæcological Trans.*, vol. 12, p. 305.

the operation for dealing with these cases, when death from laceration and hæmorrhage is imminent, has dazzled and blinded his eyes to the necessity of adopting a plan of treatment which will prevent these fatal ruptures. I would if possible rob him of the professional satisfaction he derives from performing these operations, but above all I wish to remove from his mind the strong feeling of opposition which he has expressed against the electrical treatment of misplaced pregnancy, for I am convinced, from what has been done in America and from my own case, as yet the only successful one in this country, that by electricity we may rescue from almost certain death all those women in whom the accident has been detected early.

Now what are Mr. Tait's objections? The year before last at the Brighton meeting of the British Medical Association, a discussion took place upon some cases of extra-uterine gestation. The report in the Journal says:—"Mr. Tait offered objections of the very strongest kind against the use of the electric current in such cases, because he considered it as one of the most nonsensical proposals which had ever been submitted to a surgical audience." His reasons for this opposition were:—

First: "Out of all his experience he had never yet been called upon to make a diagnosis in tubal pregnancy before the rupture of the tube." Now in this Mr. Tait has had an exceptional experience, for of the twenty-one cases of ectopic gestation mentioned by Dr. T. G. Thomas, sixteen were diagnosed before rupture and only five after.

Second objection: "There were no symptoms in tubal pregnancy until rupture was established." Here is an astounding statement, and one which Mr. Tait over and over again contradicts in his writings. In the *Transactions* of the Obstetrical Society of London, Vol. 15, may be found a paper by him "On the Diagnosis of Extra-uterine Pregnancy." He acknowledges that, when rupture has taken place, 85 per cent. of the cases may be correctly diagnosed, and how? chiefly by the symptoms before rupture; and yet, according

to him these do not exist. He says, "The real clue to the nature of the case was a history of sterility for some considerable time, the arrest of menstruation for weeks or even months, and a sudden access of pain and collapse, with repetitions of these attacks." Mr. Tait has here given a graphic description of the prominent symptom of tubal pregnancy before rupture, and yet he says there are no such symptoms. In a letter to Dr. Harris, of Philadelphia, in which Mr. Tait asks that his strong objection to the treatment of extra-uterine pregnancy by Faradization may be made known in America, he says, "that a correct diagnosis will not be made probably more than once in three times." This admission proves that Mr. Tait's opinions on the subject are in a transition stage, and that we may hope for a further satisfactory development of them. Granting the diagnosis of ectopic gestation to be difficult, why should this difficulty be urged as a reason for discarding electrical treatment? How often would Mr. Tait open the abdomen if he only did so when he was able to make a positive diagnosis?

Third objection: "To apply the electric current to every kind of pelvic lump under the suspicion that it was an extra-uterine pregnancy, would be a most haphazard dangerous proceeding worthy of the strongest condemnation." It has never been proposed that electricity should be applied to every pelvic "lump," but it may be confidently asserted that moderate Faradization would do no harm to any pelvic tumour capable of being mistaken for ectopic gestation. Dr. Garrigues says, "If the diagnosis of extra-uterine pregnancy can be made early with certainty, or if, in doubtful cases, the probability points in that direction, the treatment is electricity." Gynæcologists may, therefore, gaze complacently on this bug-bear of Mr. Tait's, and confidently employ the electric method without fear of disaster.

Fourth objection: "He has heard quite enough of the stories of the subsequent histories of cases where such diagnosis had been made, and where the electric current had been used, to justify him in using the strongest kind of con-

demnation which he could utter." Mr. Tait leaves us to imagine these histories. I have met with none except the two I have related. But this vigorous protest is interesting, inasmuch as he admits having met with cases "where diagnosis had been made," which answers his

Fifth objection: "He did not know any one who had ever asserted that he had made a diagnosis of tubal pregnancy before rupture had taken place."

The sixth objection is, that "The destruction and death of the child was of no consequence at all: the organ which could not be destroyed by the electric current, but which would go on growing and would go on bleeding when it was torn, was the placenta." Mr. Tait has quite recently repeated this objection in another place. He said "What was the use of destroying the fœtus by electricity, as the placenta continued to grow, and it was not the fœtus that was a source of danger, but the placenta."

Morgagni first pointed out that the maternal portion of the placenta might continue to grow after the death of the fœtus, and this growth, as Spiegelberg has pointed out, depends upon hypertrophy of the decidua and its prolongations. Neither in my own case, nor in any other treated by electricity, have I seen or read of any after growth of the placenta, and I challenge Mr. Tait to quote one published case in which such growth has taken place. I can at the present moment refer to more than twenty cases of ectopic pregnancy treated by Faradization, and in every one the report states that the tumour began to get smaller directly after the treatment, and gradually diminished until it became the size of a walnut, or a plum, or disappeared altogether. Not a word about the continued growth of the placenta, which appears such a huge obstacle in the eyes of Mr. Tait. This being the case, we may, I think, decline to share his apprehensions, and conclude that, even if such after growth were possible, it must be exceedingly rare, and certainly not of sufficient importance to deter us from using electricity in these cases.

Finally, Mr. Tait says, "His greatest objection is, that supposing the fœtus has passed through the stage of tubal rupture and remained alive, what right have you to murder that child?"

The answer to this objection is obvious. It is a recognized axiom in obstetric practice that the life of the embryo or fœtus must be sacrificed when it is necessary to do so for the mother's safety; and in spite of his objection this is also Mr. Tait's opinion, for at a meeting of the Royal Medical and Chirurgical Society, he said, "As a rule operative interference should be had recourse to, as soon as the diagnosis of extra-uterine pregnancy has been made, and if the fœtus were living, it would not be wise to wait until it had reached the age of viability." It would seem, therefore, that he does not object to "murder" the child himself at any period of its existence short of viability.

With the exception of a fear, which proved groundless, that electricity might cause contraction and rupture of the cyst, these objections to the electrical treatment of early extra-uterine gestation are the only ones with which I have met. I must leave the Fellows to determine how potent they are, and how desirable it is that they should be allowed to arrest the practice of a simple, safe and efficacious operation, by means of which one of the most serious accidents befalling women is deprived of its terrible power and fatal effects.

I shall now pass on to the more practical part of my paper, and briefly consider the best methods of diagnosing and treating early tubal gestation.

Diagnosis.—At the outset I may say that I have invariably found writers who have least studied the symptoms of early ectopic pregnancy, to be the most emphatic in asserting the difficulty and impossibility of diagnosing it. Dr. Parry wisely remarks, "a more extended clinical experience will probably show that the existence of misplaced gestation can be detected quite easily, if not more easily than normal pregnancy in its early stages." Difficulties do and

must always exist, but a comprehensive grasp of the history, and attention to the objective and subjective symptoms of each case will in most instances leave little doubt as to the nature of the abnormal condition under examination. If this be true, it must be remembered that as our means of detecting extra-uterine gestation increase and improve, so also, in proportion, must the responsibilities of the practitioner; for, upon his promptitude and skill in making an early diagnosis, may depend his reputation and the life of his patient. The earlier the diagnosis is made out, and the sooner treatment is commenced, the more satisfactory will the result be.

Laparotomy is an excellent and life-giving operation after rupture has taken place, but one in four, to whom this accident occurs, dies so rapidly from internal hæmorrhage, that medical assistance cannot possibly arrive in time to save the patient. Any practitioner who meets with a case presenting the history and subjective symptoms of ectopic gestation should insist upon an examination, and endeavour to clear up his doubts by making a physical exploration of the pelvic organs.

The history of a case of misplaced gestation is of great importance and should never be overlooked. It will be found very frequently that there has been a period of varying length, prior to the occurrence of the accident, during which the patient has remained sterile. Sometimes she may never have been pregnant, or she may have given birth to many children. As a rule, however, erratic pregnancy is found to occur most frequently during a prolonged sterile period following a first confinement; and I may here record my belief that the accident is most commonly caused by injuries sustained or disorders produced by first labours. Another important point in the history of these cases is that the patient generally believes herself to have been for some time pregnant, and that there is something unusual about her condition.

Although it has been maintained that ectopic gestation

can be discovered when it has existed a fortnight, it is not probable that the medical man will be called upon to diagnose the condition until it has been progressing for at least four weeks. At the end of this time a most characteristic symptom frequently appears, and medical assistance is sought.

Pain.—In the diagnosis of early extra-uterine gestation we have no more reliable guide than the peculiar agonising paroxysms of pain which accompany it. They are unlike any other abdominal pains, but are described as being similar to cramp or colic. They are felt in the hypo-gastric or iliac regions, and they double up the patient, throwing her into a state of extreme prostration, collapse, and cold, clammy perspiration. The characteristic pain may occur at a catamenial period, or after exertion of any kind; and it is supposed to be caused by contraction of the fœtal cyst. If this be true, rupture must be imminent every time it occurs, for unfortunately one violent paroxysm succeeds another, and after only an interval of a few days, the poor victim again suffers tortures which drive her to the very verge of death with their intensity. These pains are best treated by heat, morphia, and chloroform, but the latter must be used with great care, for struggling during its administration, or vomiting after it, might determine rupture of the cyst. The knee-elbow position has in some cases been found to relieve the suffering.

Symptoms of Pregnancy.—If the pain now described be due to ectopic gestation, the ordinary supervening signs of conception will be noticed—the usual gastric disturbances and mammary changes, the cessation or scanty appearance of the catamenia, the deepening of the vaginal hue, and disorder of the vesical and rectal functions. Ballottement, the absence of the uterine souffle, and contractions of the uterus—valuable as diagnostic signs when the pregnancy is further advanced—are not available during the early period which we are now considering.

Metrorrhagia is an important symptom in extra-uterine pregnancy. It may be continuous or only appear at irregular intervals. Everything which escapes from the vagina should

be carefully examined, for decidua may be expelled, and the discovery of this is a significant fact. The membrane may be discharged entire or in minute shreds, but in whatever condition it is cast off, it should be carefully preserved and submitted to microscopic examination.

Pelvic Tumour.—The foregoing symptoms having rendered a vaginal examination absolutely necessary, the practitioner will, if the case be one of misplaced pregnancy, discover a rounded, elastic, tender tumour, behind and to the right or left of the uterus. If watched for a few days it will be found to be rapidly increasing in size and vascularity. When considered with the history and symptoms of the case, I know of no other pelvic tumour with which it could be confounded.

The Condition and Situation of the Uterus provide us with other valuable diagnostic information. The uterus will be found enlarged, its os soft and patulous, and its cavity, if examined by the sound, elongated and empty. The uterus will also be discovered displaced, and pressed by the tumour against the front of the pelvis. To make a satisfactory examination of the tumour and uterus it may sometimes be necessary to give the patient an anæsthetic.

The Treatment of Early Extra-uterine Gestation.—Laparotomy after rupture of the tube is a necessary and life-saving operation, and it was successfully performed forty years ago by Dr. Clay, of Manchester, but the object of all treatment should be to prevent rupture, and thus render the more dangerous operation unnecessary. No one would think of waiting until an aneurismal sac had burst before he used means for arresting its progress. I shall confine my observations to the use of electricity in these cases, for I believe it to be a method of treatment superior, in every way, to all others. As far as my reading goes, I know of no case in which it has failed, when properly applied. It may certainly be used with every chance of success during the first four months. As to its employment later than this, experience has not yet given

any definite answer. There can be no doubt, however, that the earlier it is had recourse to the better.

A satisfactory diagnosis having been made out, the fœticidal effects of electricity should be promptly employed. Fortunately no large and expensive battery is necessary, for a moderate interrupted current is in most cases all that is required. Nor is any great manipulative experience required. Certainly anyone capable of making a diagnosis by examination would find the electrical treatment comparatively easy. This cannot be said of the rival method of treatment by laparotomy, for Mr. Tait, describing the operation says, "Adhesions occur to every one of the pelvic viscera, and there can be little doubt that, for *success* in dealing with them, very considerable experience with the finger tips will always be necessary, for it can only be after prolonged acquaintance with the sensations which are conveyed by different structures to the fingers that the adherent tube and placenta can be recognised from coils of intestines, broad ligament and uterus." If, as Mr. Tait says, very considerable experience with the finger tips is always necessary to insure success in dealing with extra-uterine gestation by laparotomy, how many are there who will venture to undertake the operation?

Before going further, let me here make a few remarks upon the mode in which electricity causes the death of the fœtus. At present there are two theories held; one that the fœtus is killed by electrolysis; the other that death is due to nervous shock. My belief is that, although both these methods may be possible, the mode in which destruction of fœtal life has been usually and most successfully effected, has been by tetanic contractions of the fœtal heart due to the repeatedly broken current of an induction machine.[1] This theory, which I have not seen anywhere suggested, explains why Dr. Braxton Hicks and Dr. Matthews Duncan failed. Neither of them used the interrupted current long enough. The action upon

[1] If this theory be correct, the primary coil of the battery would be most efficacious.

the fœtal heart was only transient; time was given for it to recover from its spastic condition. To be effective, the current should be as strong as the patient can bear, not turned on all at once, but gradually increased to that point. It should be continued for at least ten minutes, and repeated every day until the effects upon the tumour become evident. These effects, which confirm the accuracy of the diagnosis, are, cessation of pulsation, diminution of resistance, and reduction in size of the tumour, and, besides these, retrograde changes in the breasts and retiring of cervix uteri from the pubis.

In a case which I treated a short time since, with the details of which I shall not trouble you, as they have been published in the *British Medical Journal*, December 4th, 1886, I used Gaiffe's induction machine, and only half its power was employed. The negative electrode was applied to the most prominent part of the cyst through the vagina. (It may be found convenient to pass this through the rectum in some cases.) The positive electrode was placed on the abdominal wall opposite the tumour. No pain or inconvenience was felt after the applications. They were only four in number, for, on the fifth day, when I was prepared to repeat the Faradization, I found such a marked change in the cyst that I felt convinced gestation had been arrested. This proved to be true, and the patient is now in perfect health and no trace of the tumour can be felt.

As I have before said, we are indebted to our American brethren for having popularised this method of treatment, and I cannot do better than conclude by giving you the opinions arrived at by two of the best authorities on the subject in that country.

Dr. Thomas, after an experience of twenty-seven cases of ectopic gestation, says: "The growing triumphs of abdominal surgery are apt to lead to the conviction that laparotomy should, as a rule, be the procedure of election in these cases. From this view I unqualifiedly dissent. In the electrical current we appear to have an infanticide agent of reliable

character, and, as in the woman, as Leopold has proved to be the case in the rabbit, the retained fœtus seems to be readily dealt with by the absorbent process of nature, this should, in the early months of pregnancy (I should say up to the fifth month), be preferred to the more radical and dangerous procedure of laparotomy."

Dr. Garrigues, who, after recounting the various plans proposed, or carried out, for treating early extra-uterine gestation, says: "Against all these dangerous or doubtful methods stands electricity, with a record unblemished by a single failure or any dangerous consequences. It has been used in quite a number of cases. The pregnancy has been promptly interrupted, and every single patient has definitely recovered within a short time. This success has been so uniform that it seems the time has come to put it down as an axiom based on experience that in the early part of pregnancy electricity is *the* remedy, and that it is the duty of the physician to give his patient the benefit of its application."

Such are the conclusions of physicians who have employed the electrical treatment and have thoroughly informed themselves of all that has been done by others in the same direction; and against these strong opinions and this incontrovertible evidence we have, at least in this country, but the opposition of one surgeon, who, without practical experience of the subject, ventures to denounce the electrical treatment of early extra-uterine gestation as a "most nonsensical proposal."

I think Mr. Tait is rather overstraining one of his eyes, I mean the one with which he views laparotomy. I believe it to be a real sorrow to him that every disease to which flesh is heir cannot be cured by this operative treatment. It is quite true that success can only be attained by working heart and soul at one subject to the exclusion almost of every other, and the whole world is indebted to Mr. Tait for advances in abdominal surgery which have resulted from his genius, courage, and skill; but I would like him, now that he has achieved his triumphs, to give that laparotomy-eye a rest,

and, using the other, gaze with some complacency upon an alternative plan of treatment which is safe and satisfactory and does not demand exceptional manipulative skill.

Mr. LAWSON TAIT said he would begin by replying to Dr. Aveling's paper, and though he was very grateful to him for his complimentary remarks, he would assure him that he was not so much in the habit of using one eye as Dr. Aveling seemed to think. He had listened most attentively to all that Dr. Aveling had said, and with one exception he was entirely of the same opinion as he was before. With reference to the exception, he was not quite sure about it, because on that and other abdominal subjects it was quite impossible for him to carry in his mind the detailed statements of everything he had written on the subject. The point to which he alluded as an exception was the quotation given by Dr. Aveling of what purported to be drawn from a paper read by him before the Royal Medical and Chirurgical Society, in or about 1874, upon a case of extra-uterine pregnancy which he had operated upon successfully a year before. Dr. Aveling said that he then held a different view of the value of the child's life to what he did now. So far that was perfectly true; he did not then recognize the right of the child to life as he now did; but he would qualify that statement with the belief that if Dr. Aveling had completed the contest he would find that the difference was not so great as he seemed to think. If he (Mr. Tait), really did say, on the occasion referred to, that "if the fœtus were living it would not be wise to wait until it had reached the age of viability," then what he had said was wrong and he withdrew it. In all the papers he had written on the subject during the last six or seven years he had never said anything about ectopic gestation at any time previous to the incident of rupture, and that because he had only seen one case prior to rupture. His own notions had been so upset by the evidence of others that he deliberately refrained from expressing any opinion until he was enabled to settle, to his own satisfaction, what his opinions were.

He insisted on the fact that he had only seen a single case of tubal pregnancy before the date of rupture. The woman came to him a few weeks ago in the ordinary course of out-patient practice, with symptoms of obscure pelvic pain, *of several months' standing*—in short, with the usual symptoms of tubal disease. She was examined, and they came to the conclusion that it was a case of gonorrhœal salpingitis, and so clear were the symptoms that he used the case to demonstrate to his pupil, Dr Ricketts, the nature of the symptoms in that disease. That was on a Monday. On the Thursday following she turned up again with the most acute symptoms—she was bent double and could hardly walk. Finding that the whole floor of the pelvis was fixed in one mass, she was at once admitted. The next morning he opened the abdomen and found—a ruptured tubal pregnancy, than which nothing was less suspected. He defied anybody to have diagnosed such a case beforehand, for the woman had not even named a period.

His paper on the diagnosis of extra-uterine pregnancy in 1877, quoted by Doctor Aveling, was based upon a mistake and applied to the pregnancy at full time. He had been reading a paper, which had just appeared, upon the subject by Professor Koeberle of Strasburg, and the first case he saw that day curiously enough presented all the symptoms of extra-uterine pregnancy at full time. She was operated upon and recovered, and a few days later another woman came in with a large abdominal tumour, which he diagnosed as an ovarian tumour. She turned out to be the cousin of the other patient. She gave a story of suppressed menstruation—rupture about the thirteenth or fourteenth week; shock, fever, pain, with apparently a false labour at the end of nine months; nevertheless it turned out to be an ordinary ovarian tumour. Here then he spoke of diagnosing over the whole period of extra-uterine gestation, and not, as Dr. Aveling intimated, previous to time of rupture. What he asserted was that no diagnosis could be depended upon before the date of rupture. One might guess, but it was impossible to affirm.

As to the danger to be apprehended from the continued growth of the placenta after the death of the fœtus—supposing it to be killed by electricity—he did not intend to say anything about it until he had had more experience on this head. His remarks applied to tubal pregnancy at the time of rupture, and to that only, and he maintained that a medical man who was called in at such a time, knowing what could be done and did not operate, would be guilty of positively disgraceful conduct. The operation, doubtless, was none too easy, but the first step was to open the abdomen, ligature the broad ligaments, and then one could pause to consider what more was to be done.

He was discussing, at the meeting at Brighton, the treatment of tubal pregnancy after rupture and nothing else—not rupture into the broad ligament and the continuance of the pregnancy—and whatever other people were discussing, his remarks were confined to that. He therefore repeated what he said then, that to apply a galvanic current with such hæmorrhage as occurred in these cases was the most nonsensical proposal ever made.

DR. AVELING interposed with the remark that the discussion at Brighton was on papers—his own among the number—dealing with the electrical treatment of extra-uterine pregnancy.

Mr. TAIT (continuing). Be that as it might, his (Mr. Tait's) remarks applied only to tubal pregnancy at or after rupture. When a man said he had treated a case of early tubal pregnancy by electricity successfully, he dissented. He would show his specimens in support of what he advanced, and it was not every tumour that was diagnosed as an extra-uterine tumour that was really so.

As to the result of the employment of the battery of forty cells, "the bones of the fœtus being extensively laid bare, the tissues in a great part dissolved, and the heart hardly recognizable," it was really too absurd to put that down to the effect of the current. When rupture took place, he often found a macerated fœtus "with bones extensively laid

bare." In that case the fœtus must have been dead for weeks before the current was applied.

He was in a difficult position, because, to illustrate his contention, it would be necessary to allude to cases with which he was acquainted, which had been operated upon by friends of his across the Atlantic, and as he had already been pounced upon for alluding to unpublished cases, he preferred to refer Dr. Aveling to his authority, Dr. B. Wiley, of New York.

Coming back to the growth of the placenta, the cases he had seen were those in which he had found a macerated fœtus, not more than ten or twelve weeks old, while the placenta was the size of a four months' pregnancy. Dr. Berry Hart had noticed the same thing, and he had a section given to him by Dr. Hart, to prove it. Mr. Knowsley Thornton also confirmed the statement.

He said it was asking too much to accept those twenty cases alluded to by Dr. Aveling, which disappeared after treatment, as cases of tubal pregnancy, and then ask him to disbelieve what he had seen with his own eyes, and had been confirmed by Berry Hart, Knowsley Thornton, and others, as to the growth of the placenta.

He would observe that in respect of the life of the child, the opinions of the Society had altered a good deal of late years. They did not destroy children now with the same facility as they did some years ago. He denied their right to kill a child in that way. Out of fifty children skilfully treated, and allowed to go on towards term, he believed that there were great chances that *all* the children, and most of the mothers, might live, by proper surgical intervention at the opportune moment. Of course, this conclusion would not be arrived at if we judged from the catalogue of horrors published by Dr. Harris, a list absolutely misleading and worthless.

Dr. INGLIS PARSONS said that the placenta continued to grow after the death of the child, in some cases; but even if that were the case, it did not follow that the placenta could

continue to grow if the child had been killed by electricity. The force that could produce the death of the child would not be likely to leave the placenta untouched. It was, of course, an open question. He was not aware that any case treated by electricity had been brought forward to be operated upon afterwards, on account of the continued growth of the placenta. He quoted the paper of Dr. Garrigues, containing twelve cases where the diagnosis had been made by the most eminent men without any subsequent trouble, from the placenta. Even supposing the placenta did go on growing, there was plenty of room for it in the pelvis, and if it did arrive at full growth, the same sort of thing might be repeated, as sometimes occurred with an abdominal gestation, viz. :—a false labour, quiescency, and atrophy.

Mr. LAWSON TAIT observed that if the child were killed, there was no guarantee that the tube would not rupture.

Dr. PARSONS (continuing). It was possible, but did not follow that any symptoms would ensue, even if the growth went on. With regard to the kind of electricity to be employed, Dr. L. Smith had published a case in which he used, on several occasions, a constant current of 125 milliampères, without producing any effect, the child continuing to live. That seemed to show that electrolysis did not have any effect on the child, and it was quite consistent with what they knew of its action. The probability was that death was produced by shock, and the choice lay between the constant current, slowly interrupted, and the Faradic current. There was, of course, this disadvantage, that the contraction of the abdominal muscles to which the latter gave rise, increased the tension of the sac, and with it the chances of rupture.

Dr. RUTHERFOORD said that there were two or three objections to this method; in the first place, up to the fourth month, and even up to the third, its use was extremely dangerous, and he quite agreed with Mr. Lawson Tait that before that date the diagnosis was extremely difficult. They could not be sure that they had to deal with a case of extra-uterine gestation. He thought the Faradic current was distinctly

dangerous. The muscular coat of the tubes was augmented in quantity, and therefore the risk of rupture was serious. Nobody who had seen a fibroid treated with the constant current would doubt that there was tremendous contraction. Alluding to a case of extra-uterine gestation, recorded in Mundé's Journal, the sac ruptured, and it was ascribed to the contractions caused by the current. Apostoli had seen contraction taking place with the constant current, and even the Faradic current might conduce to the same result. He questioned Dr. Aveling's assertion as to his having made out a diminution in the size of the sac under treatment. If the Faradic current were employed at the fourth or fifth month, when the sounds of the fœtal heart could be heard, and if, after treatment, they ceased, then they would be entitled to claim that the treatment had so far been successful; but Dr. Aveling had spoken of a case at two months, when, of course, no such proof was available.

Dr. IMLACH said his experience of extra-uterine gestation would show how very advanced their opinions had become to what they formerly were. One case occurred in 1872. It was under the care of one of the most experienced gynæcologists of his time at Edinburgh. The patient was admitted to the Royal Infirmary at Edinburgh, and remained there some months. They listened day after day, week after week, for the sounds of the fœtal heart, and at last they were heard. The patient had passed through the terrible ordeal of the third and fourth months when the chances were so much in favour of her dying. There was a living child and a living woman, at full term, now, laparotomy would be performed; then, however, the matter was put off, and at last, *horribile dictu*, they plunged in a long tube to try and draw off the liquor amnii. Nothing came, and the child did not die, so they injected morphine, and still without success—the child would *not* die. Days passed again, and at last the great gynæcological surgeons said they would have to remove the child by laparotomy. A little more delay and then they came to the conclusion that it must be done—they were actually going to

do it the next morning, but unfortunately the woman died the preceding evening. If such a thing were to happen now it would justly be considered disgraceful.

Dr. Aveling had their sympathies entirely because he wished to help them, and they all wished to avoid unnecessary laparotomies. He agreed with Mr. Lawson Tait that when they performed laparotomy after rupture, at four or five months, they generally found a macerated fœtus. He asked what happened inside the uterus when the fœtus died—miscarriage followed by expulsion. He maintained that precisely the same thing happened in a tubal pregnancy. As soon as the child died or was killed, the tube endeavoured to discharge its contents, and as it could not possibly pass into the uterus, the tube was ruptured. It seemed to him that the cases they had read of extra-uterine pregnancy were not strong enough to warrant their acceptation. If they killed the fœtus they were doing the best they could to bring about the very thing they wished to avoid. Let it go on to full term or until rupture, and then operate at once. He did not wish any harm to electricity, but let them reserve it for cases of fibroid tumours, salpingitis, &c., and not try it in extra-uterine pregnancy. Laparotomy could always be performed, almost without danger, so that there was really no excuse for killing the fœtus. He considered it to be an absurd piece of meddlesome gynæcology.

Dr. W. JAPP SINCLAIR said that he doubted the possibility of diagnosing the early stage of tubal pregnancy before rupture. Without unmistakable diagnostic marks of the condition there could be little use in collecting cases of cure by electrolysis. Whether the tumour was due to tubal pregnancy or not, it might disappear under treatment, but still the case was "not proven" as to the efficacy of electrolysis in tubal gestation. If the treatment was applied in the latter stages of tubal pregnancy, the fœtus might be killed, but a tumour remained containing the dead fœtus, and the placenta which might have to be got away by an operation as dangerous as laparotomy would originally have been. Now, with regard

to diagnosis in the earlier stages, Dr. Aveling had mentioned some symptoms on which he relied, but he (the speaker) could not but think that Dr. Aveling's generalisation was premature and on too narrow a basis. His own experience of the early stage, so far, had been that there were no symptoms before the rupture took place. In three cases, with the details of which he was familiar, there were absolutely no symptoms before rupture, and in two of these cases even after rupture the symptoms were such as to draw the attention of the practitioners, who were first called in, away from the pelvic organs altogether. He concluded that with such present knowledge it was absolutely impossible to arrive at a perfectly reliable diagnosis beforehand. He could call to mind several cases at present or very recently under his care, which simulated tubal pregnancy; in two of them the tumours were adherent to the pelvic floor, and he incised from the vagina with the most satisfactory results. He must say that as far as the diagnosis of tubal pregnancy in the early stages, and the treatment of it by electrolysis or laparotomy, his opinions differed, *toto cælo*, from those of Dr. Aveling.

Ten o'clock having arrived, the PRESIDENT put it to the meeting whether the discussion should be continued then or not.

Dr. ROBERT BARNES observed that it would be impossible to complete the discussion in half-an-hour, and he therefore moved the adjournment of the discussion. He hoped Mr. Lawson Tait would be enabled to leave his specimens.

The motion was seconded by Dr. ROUTH, and agreed to *nem. con.*

Mr. LAWSON TAIT said he could not undertake to bring back all the specimens again. He asked permission to say a few words in reference to one of them which, at a first glance, looked like an ovary, but which was really a ruptured tubal pregnancy. This was a case in which no preliminary symptoms were observed; the woman was suckling her youngest child at seven months; she had a good constitution, no previous illness. On November 2nd, at 1.30 p.m., she was taken

suddenly ill with pains in the abdomen, followed by vomiting and faintness. The doctor was called to her the same afternoon, the pain was relieved by Battey's solution, and death took place at 9 p.m. It was only within the last twenty minutes of her life that her medical man had any suspicion of what had taken place. This was the earliest case on record —being at the end of the first month, though there were plenty at eight, nine and ten weeks.

Dr. ROBERT BARNES proposed, and Dr. ROUTH seconded, a resolution that the discussion be adjourned until the next meeting. This was carried.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, FEBRUARY 22, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 37 Fellows, 12 Visitors.

The following were elected Fellows of the Society:—Dr. E. A. Neatby, Dr. Hamilton.

The following were proposed for election:—Dr. George Henry Aiken, California, U.S.A.; Dr. John Hasard, London; Dr. Arthur W. Mayo Robson, Leeds; Dr. Arthur Henry Wyborn, London.

Dr. ROBERT BARNES said, in resuming the discussion on the important subject of extra-uterine gestation, I may be permitted in the first place to say that Dr. Aveling's paper was a very able pleading for the application of one particular mode of treatment. But it must have struck some of us also that his argument was very much that of a special pleader who feels that the best way to make his case good is to ignore every other element but the one he wants to establish. He seeks to prove the value of electricity in the treatment. But this is a very narrow and limited part of the great question before us. To arrive at a useful estimate of the value even of this method, it is still necessary to extend our survey beyond the small class of cases in which electricity can find application. This must be my apology for inviting the Society to come back to the larger questions at issue.

We must, then, look at the subject of ectopic gestation as a whole. It is only in this way that we can form safe deductions as to the pathology and therapeutics of particular cases.

I will, in the first place, express my personal gratification that the term "ectopic," which I first proposed some years ago, to replace the term "extra-uterine," has met with all but universal acceptance. It has a more comprehensive meaning, and is at the same time more accurate and less compromising. If Mr. Tait's contention be admitted—that all ectopic gestation is originally tubal, we might as well at once use the term "tubal." But that is open to the objection which vitiates so many definitions, that it begs the question, and assumes that our knowledge is complete. I am not prepared to assert absolutely that there is no such thing as primary abdominal gestation, although I have expressed my doubt as to its occurrence. Still, comparative physiology lends some support to the affirmative conclusion. And I think there is satisfactory evidence of the occurrence—rare, indeed—of primary ovarian gestation; and the tube-ovarian variety can hardly be classed as strictly tubal. I concede the essentially tubal character of the interstitial variety.

Causes.—Etiology is often the best guide to pathology, and certainly it is to preventive treatment. As to prophylaxis, I am afraid in this case etiology cannot help much. If, again, Mr. Tait's contention that desquamatous salpingitis is *the* probable cause, it is not clear that we can do much in preventing or curing salpingitis, except by removing the tubes—a perfectly legitimate proceeding in the case of diseased appendages. But my own experience does not justify me in accepting the proposition as explaining even the majority of cases of tubal gestation. A more comprehensive explanation will, I think, be found in the general statement that the cause lies in obstruction to the onward progress of the ovum to the uterus. It is remarkable that a considerable proportion of cases of ectopic gestation have occurred in association with fibroid tumours of the uterus, sometimes blocking the orifices of the tube, sometimes by distorting the relation of parts; other cases are found associated with distortions of the uterus from flexions; others with inflammatory adhesions of the uterus or tubes; others

from pressure upon the tubes from various causes. I believe tubal gestation is most frequent on the left side. This may be explained by the greater liability of the left tube to pressure from accumulation in the sigmoid flexure. I have formed a provisional opinion that ectopic gestation is more frequent in women exposed to hard work, in whom it may be supposed that pressure upon the tubes is more likely to act. But upon this I do not insist.

It is worth while to make the incidental observation that these cases of ectopic gestation prove that impregnation does not take place in the uterus, but that the fortuitous concourse of atoms, male and female, the coalescence of spermatozoa and ovum is effected in the tube or on the ovary. And analogy with lower animals even supports the hypothesis that the elements may meet and unite whilst wandering in the peritoneal cavity, each seeking its mate.

As to the treatment of salpingitis, it is not undeserving of recollection that Tyler Smith proposed, and, I believe, practised catheterisation of the tubes. Clearly, if we could get at the tube as we do at the cavity of the uterus, we might expect to accomplish like results from topical applications.

The study of the *march and symptoms* leads more directly to the practical question of treatment. What is the usual course of a tubal gestation? The event that strikes us most forcibly is the rupture of the sac, attended by hæmorrhage into the peritoneum and collapse, *sometimes* fatal. This indeed makes an impression upon the mind so strong as to throw every other issue into the shade. Some people think this cataclysonic rupture is the only, or nearly the only, issue. It occurs generally before the twelfth or thirteenth week. The catastrophe is sometimes sudden and overwhelming; at other times, there is a stage of rallying which may even issue in spontaneous recovery. And there is reason to believe that in some cases the rupture is not effected at one stroke, but that the crushing one may have been preceded by minor partial rents. A condition that favours and seems to me to give warning of the impending rupture, to which I long ago

drew attention, is the hæmorrhage which so constantly precedes it. This hæmorrhage is probably due in some cases to preliminary partial detachment of the ovum from the cyst-wall, promoted by the congestion of ovarian stimulus, emotion or physical exertion. The blood which appears externally comes partly from the uterine wall as in ordinary menstruation, partly from the cyst; and it is in the highest degree probable that some blood escapes from the fimbriated end of the tube into the peritoneal cavity before rupture of the cyst takes place. This appears to have been the case in one case related by me, No. 6, in which there were signs of ordinary fibro-uterine hæmatocele some days before the final cataclysm ensuing upon rupture of the cyst.

Tubal abortion like uterine abortion most occurs at menstrual periods, when the nervous and vascular tension have reached the maximum intensity. At this time the vessels of the sac and of the placenta are in the acme of turgescence. They more readily give way. And there is another factor not generally recognised. The growth of the ovum is too rapid for the accommodation afforded by its unnatural nidus. Its rate of growth exceeds that of the tubal sac. It shoots out beyond the limits of attachment; and hence under the turgon of menstruation, the first hæmorrhagic effusion. An analogous process occurs in placenta previa, a cognate form of ectopic gestation. In like manner effusions of blood into the peritoneum attend some cases of uterine abortion, and in some cases they may be the consequence of bursting of hæmatosalpinx, or from the turgescent vessels during menstruation, especially in the obstruct forms of dysmenorrhœa. I have narrated cases of all these kinds. Diagnosis from tubal gestation must be sometimes impossible without direct inspection. Ruysch, Haller, Brodie, Trousseau and others believed that blood, menstrual or lochial, could flow back from the uterus into the peritoneum.

There may I believe be abortion of a tubal gestation analogous to uterine abortion, which may end in recovery. We cannot of course estimate the number of such cases.

Upon this point it may be useful to cite the opinions of Schrœder. Premising that the bursting of a tubal gestation leads to severe hæmorrhage and profound collapse, he says, this only exceptionally leads to death. In many cases the bleeding arises either from weakening of the heart's action or from pressure. With care, fatal issue is as a rule avoided; the subjects recover with unexpected quickness; the numerous lymphatics of the peritoneum quickly absorb the blood. Fatal peritonitis, he says, is exceptional. Recovery again may ensue from death of the embryo. Although this view is too optimistic, I have certainly seen clinical illustrations of Schrœder's propositions.

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In the interstitial variety the solution by uterine abortion may be expected and even [illegible]. I have recently seen such a case in the neighbourhood, in which three of us in consultation had arrived at the opinion, that the case was one of tubal gestation. I held myself in readiness to operate; but eventually the fœtus, of four months about, was dragged through the ostium uternium, and all went well.

Now comes the great question of *diagnosis*, which governs that of treatment. We must begin with the earliest stage. Mr. Tait contends that the diagnosis in the early weeks is all but impossible; but then he admits he has rarely or never been called upon to make it. He does not practise obstetrics. He comes on to the scene as Jupiter, or Apollo, to rescue from the cataclysm. Lucina is nothing to him. Now I maintain that the diagnosis may be made of tubal gestation with reasonable certainty, before the fœtal heart can be heard, even at seven or eight weeks. Dr. Sinclair has very well said that there must be subjective symptoms to indicate recourse to examination; but I demur to his statement that there are no symptoms before rupture. I will point them out. All ectopic gestations, including that marked by placenta prævia, tend to end by abortion. Abortion commonly is heralded in by premonitory symptoms. In the case of early tubal gestation, there is commonly arrest of menstruation. By itself this is not worth much, but if attended by sickness and the other

subjective signs of pregnancy, the presumption of pregnancy, as yet in favour of uterine pregnancy, rises. If examination is now made, we get objective signs of great value. The dark violet coloration of the vagina and vaginal portion, added to increased bulk of the uterus, make up a body of cumulative evidence, all but conclusive, still in favour of uterine pregnancy. But it will be asked, how does this apply to the detection of tubal gestation?

A word as to the continued life and growth of the placenta after the death of the embryo. In exceptional cases of uterine gestation, I believe this does occur, and in those cases in which the placenta undergoes myxomatous degeneration, there can be no doubt of it. I am not aware of any instance on record of this degeneration being observed in tubal or abdominal gestation.

Of the two constituent elements of placenta, the fœtal certainly dies with the fœtus, but the maternal or decidual may maintain a modified vitalified growth. But I am not aware of distinct evidence of this survival in cases of death of the embryo in very early tubal gestation.

What are the signs that call for special examination? There are two very decided indications where the pregnancy is abnormal. These are, first, pains more or less acute in the pelvic region, of a spasmodic character; secondly, more or less hæmorrhagic discharge from the uterus and vagina. These are signs of abortion. It may be of uterine gestation. But they call for local exploration. Then we shall find the uterus not in the normal medium position, but pushed across the pelvic brim to one side; on the opposite side we shall feel an extra-uterine swelling of an ovoid shape. The two tumours, uterine and extra-uterine, diverge from the vaginal roof. The size of the uterus itself may or may not, more probably does not, equal that of the estimated stage of gestation. If all these conditions have developed within a short period in a subject hitherto free from symptoms of pelvic distress, the case for tubal gestation rises to more than suspicion. But if the symptoms are not urgent enough to call for active in-

tervention, we get the opportunity of making comparative observations. In a week or two we may find that the extra-uterine tumour has increased considerably. This strengthens the case for tubal-gestation. Now, under the conditions described, pain, hæmorrhage, an increasing tumour in one side of the pelvis dislodging the uterus, danger threatens. If, with the uterine hæmorrhage, shreds of decidual membrane are cast, the case for tubal gestation is all but complete. The process of abortion has fairly set in. In the case of uterine abortion we might safely wait, aiding nature according to her indications. But nature's course in the case of tubal gestation is to burst the sac, and that may be fatal. Now, at this point, we may avert rupture by puncturing the sac, thus relieving tension by draining off the liquor amnii and any blood that may have been effused into it. This almost certainly involves the death of the fœtus, if, indeed, this event has not already happened. This treatment, and rest, is often enough, but it is also the opportunity for galvanism. I have no personal experiences of this proceeding, but, with my present knowledge, I prefer simply tapping the sac, and proceeding to ulterior measures according to circumstances. We should here obey the maxim, "*principiis obsta.*"

Now let us take the next stage of tubal gestation, assuming that the subject has as yet escaped the catastrophe of rupture. She has passed the first risk of abortion. There may have been moderate effusions of blood, but these have been dealt with safely by natural processes. The sac grows, and it finds room by developing in Douglas' pouch, pushing the uterus forward and the rectum backward. The uterus will now be in the medium line, but jammed close behind the symphysis pubis, and there is a larger mass projecting below the level of the vaginal portion. Sometimes, however, a degree of one-sidedness is maintained. At this stage, say at four months' development, and, *a fortiori*, later, electricity can do no good. It may, on the contrary, do harm, by usurping the place of effective treatment.

At this stage, even, opening the cyst by the vaginal-

roof may be effective. Liquor and blood drain off, and, if a sufficient opening be made, the fœtus may be extracted through it. The placenta may be left. It is more likely to undergo gradual atrophy, even absorption, than to grow.

After four and five months, cataclysmic rupture becomes less probable, but the fear of it cannot be dismissed. The sac will contract adhesions with the contiguous structures, and, from a tubal constitution it will probably, by partial opening, develop into a so-called abdominal form. This brings us to the question so strenuously urged by Mr. Tait, that we ought to respect the life of the fœtus, and stand by on the chance of extracting this child when it has arrived at maturity. Certainly as time goes on, a process of accommodation goes on, and the gestation may not only proceed to the term of maturity, but, the fœtus dying, it may be retained an indefinite time, undergoing conversion into the so-called lithopædion—a term which I have shown to be inaccurate. But can we count upon either of these events? Is it justifiable, on the questionable prospect of the fœtus pursuing a healthy course of growth, to let the mother run the serious risks of carrying a fœtus under such abnormal conditions? It is living under a suspended sword of Damocles, that may at any unforeseen moment destroy both mother and child.

Here, as in many other cases, the safety of mother and fœtus are indissolubly linked together. If the mother dies by sudden rupture of the sac or other catastrophe, the fœtus dies with her—and thus both are lost. But if we remove the fœtus by operation, we remove a cause of danger to the mother. If, again, we have such a case under observation, namely, a woman carrying an ectopic fœtus, we must admit that there is danger for the mother. And if we are compelled to select between the possible rescue of the child, and the very probable loss of the mother, the question forcibly surges up—Which life shall be sacrificed? Surely the decision must be in favour of the mother. The case is stronger than that of Craniotomy *v.* Cæsarian Section.

I now venture to sum up the question of treatment in the following propositions :—

1. The treatment to be adopted must be governed by the nature of the case, by the urgency of the symptoms, and especially by the stage of development of the gestation.

2. In the early stage, before bursting of the sac, electricity to kill the fœtus may be applicable; but simply puncture of the sac is better.

3. When signs of rupture of the sac, with manifest signs of hæmorrhagic effusion, shock and collapse have set in, no time should be lost before opening the abdomen and tying the pedicle, and, if possible, removing the pregnant tube.

If the primary effects of rupture have been tided over, and a fair degree of tolerance have been gained, it may be enough to treat the case as one of simple retro-uterine hematocele, by puncturing more or less freely the sac behind the uterus, and leaving in a drainage-tube. This plan I have adopted with success.

4. When the stage of danger of cataclysmic rupture has passed, laparotomy should be performed as soon as the condition is recognised, not waiting for the maturity of the fœtus.

5. Lastly, I would submit that when in the presence of urgent or threatening symptoms, a doubt arises as to the course to pursue, the decision should, as a rule, be in favour of opening the abdomen, and going straight to the seat of mischief. An error of diagnosis is of less moment in emergencies of this kind, than running the risk of letting an unknown morbid process work out its course. It matters little to the patient if her life be imperilled by the bursting of an ectopic gestation-sac, or by some other condition causing rapid hæmorrhage into the abdomen or pelvis. In either case it is the duty of the surgeon to save her if he can. Laparotomy certainly offers the best chance in either case. The position is one, not rare in medicine, in which the same remedy is indicated in different diseases. Therapeutics is often more simple than Pathology. Precise diagnosis is not necessary to justify laparotomy.

Dr. ROUTH said that certain points had not been touched upon, although so far, he cordially adhered to all that had

been said by Dr. Robert Barnes. The first and most important question was to make out a correct diagnosis. Now the symptoms of extra-uterine gestation were, 1st, arrest of menstruation, with other signs of pregnancy. But he pointed out as a remarkable circumstance in connection with this arrest, that after the first two or three months, it was succeeded by menorrhagic shreds of membrane—decidua—coming away, which can be verified by the microscope. Then, 2nd, there were the spasmodic pains alluded to by Dr. Aveling at the times when the menses should have come on, though these were not conclusive evidence. 3rd, Dr. Barnes and also Dr. Aveling had laid stress upon the *rapid* growth of the tumour which, when observed, possessed great significance. No other tumour found in these parts was capable of such rapid growth. 4th, The uterus itself was larger than normal, usually prolonged upwards, the cavity admitting the sound freely, and itself pushed out of the mesial line, *i.e.*, toward the opposite side to that in which the tumour existed—the os yielding the usual soft and velvety feel of pregnancy. 5th, No reference had been made to the possibility of detecting the uterine *souffle*, which might be heard as early as the sixth week if sought for in the proper manner. Frequently, while it could not be heard by the stethoscope through the abdomen at all, it could be heard distinctly in the vagina by means of the vaginoscope, which should be used in every case of ectopic pregnancy for diagnosis. The vaginoscope which he exhibited was a double stethoscope terminating in a glass tube which could be easily passed into the vagina as a speculum, and often made directly to abut upon the tumour. Although a sound like a uterine souffle might be heard in certain cases of fibroid tumour, with a little care it was easy enough to distinguish between the two; for the latter must be much larger than an extra-uterine of three months before it would give rise to the same full sound again. Fibroids were less moveable than an extra-uterine sac, which could be freely displaced. They need, therefore, with these fine points made out, not be in so much doubt in arriving at a diagnosis.

Secondly.—Supposing they were satisfied as to the existence of an extra-uterine pregnancy, what were they to do? What would Mr. Tait do if he were called in before rupture had taken place? Would he operate at once?

The diagnosis was, according to that gentleman, all but impossible in these early conditions; he must of necessity wait before he could perform laparotomy.

Thirdly.—Referring to the method of treatment, he was glad to find Dr. Barnes had mentioned puncture of the sac. Now he (Dr. Routh), had shewn in another paper, that puncture by a trochar was often dangerous to life, as it might lead to the admission of air, and death had followed its use. With the aspirator, however, this danger could be avoided. With this instrument also, opium could be injected into the sac, which was always very fatal to the fœtus contained, and would thus help in arresting the pregnancy.

Fourthly.—Coming to the employment of electricity, Dr. Routh said, that they were much indebted to American practitioners for their knowledge of what electricity could do. They were told that it did not matter what current was used provided it was strong enough. There was, however, one class of cases in which, apart from killing the child, it might bring about a delivery *per vias naturales.* He referred to those cases of tubo-uterine or interstitial ectopic pregnancy. Seven such cases are recorded. Two are given by Parvin, as recurring in the practices of Peesch and Maschka; one by Mr. Grün, two by Dr. Alexander Hay, and one by Dr. Bantock. The last occurred to himself and, with the other notices, were published last year in the medical press. In Peesch's case and in his (Dr. Routh), the fœtus was forced by the electric current from the tube into the uterine cavity, and so passed out *per vias naturales.* There could be no doubt that electricity was an engine of the utmost power, but hitherto its use had caused so much suffering that they had been unable to utilise it to its full extent. At present, although such a proceeding had been ridiculed by some gentlemen in the North, this difficulty was removed by the

employment of artist's clay, as the transmitting abdominal medium. With this medium it was possible to use electricity easily, and no fœtus could withstand 200 milliampéres. Confining his remarks to one within three months old, he referred to a case in which three needles used as the positive pole had been introduced into the sac for electrolysis with a fatal result to the mother. In the report of this case, it was stated that some difficulty was experienced in withdrawing these needles. This was probably due to the oxidation of the metal. Had these needles been used as negative electrodes, although more destructive in their action to the fœtus, this oxidation would not have occurred. If used as a positive pole the metal he would prefer would be gold or platinum. In any case he thought that electrolysis was unnecessary, if the electrodes were placed one within the uterus, and the other on the abdomen on the nearest point to the fœtal sac. Electrolysis was more dangerous, Dr. W. H. Baker, of Boston, having instanced three cases of death after the use of needles in the case of fibroids.

Fifthly.—It had been stated that using a strong current of electricity such as would kill the child, would also injure the mother, and perhaps kill her too. This was a mere bugbear. He said that no instance was on record of the life of the mother having been lost from too strong a current so used; as to the life of the child, they should ask themselves whether they would not rather consent to sacrifice the child in the interests of the mother. Supposing they had to decide in the case of someone dear to themselves, would they hesitate to intervene to save the lives of their wives, &c. Even he thought that Mr. Tait would hesitate before this *argumentum ad hominem.* It was true, that abroad and in Roman Catholic countries, they believed if a woman died in childbirth she was a saved soul, and so they sacrificed the life of the woman for that of the child. But in this country we did not so interpret Scripture. He maintained that they were never justified in risking the mother's life for that of the child. In all cases up to three months he thought it would be well to aspirate or try electricity.

Sixthly.—Supposing we were called to a case where rupture had occurred, then, indubitably, the abdominal section should be performed. Here Mr. Lawson Tait had achieved great success, and all would concur in the plan he recommended. But even here the question presented itself: should the placenta be removed or left *in situ*, the cord only being tied? Was it safe to leave it—would it grow? Now here, he (Dr. Routh,) believed a great deal depended on imagination. He had never heard of a case in which the placenta grew after the child had been killed by electricity, or having died naturally, remained in the sac, it might be for years. He certainly had read of cases in which the placenta had been left, and the patient recovered and no growth of placenta followed, as in Mr. Jessop's case. In others again, it had been removed entirely or partially, and death followed from hæmorrhage. He asked Mr. Tait what he would do if the placenta were extensively adherent to the intestines, would he remove it, as Mr. Mattheison had done? (Mr. Tait intervened to say that he should certainly remove it, and had already done so.) Dr. Routh thought much would depend on the extent of the adhesions. It only remained to allude to cases of ventral pregnancies, also ectopic. If seen at a late period, and viable, no doubt he should say operate, and God bless you for it; but, if not viable, he would not think it right to so act till it became so, and allow the mother to be sacrificed for the sake of the child. He should think it his duty to kill the child, whether by electricity or puncture up to three months, after that remove it by abdominal incision.

Mr. LAWSON TAIT expressed his indebtedness to the Royal College of Surgeons, Guy's Hospital, St. Thomas's Hospital, and the Queen's College for permission to bring together the extremely interesting collection of specimens. He said that Dr. Routh was mistaken the other evening in alluding to a specimen of ovarian pregnancy, which he said was there. It was a case of tubal pregnancy. Personally he did not believe in ovarian pregnancy, and had never been able to meet with a case, those reported as such turning out

on examination to be something else. He called attention to one specimen because the case was one which was very simple, and yet very difficult. The woman came to him in a condition of collapse. She was married, thirty years of age, and had several children. Some weeks ago she was seized with violent pains just about the time when she expected to be unwell, but there was only a slight show. She was unwell again subsequently at irregular intervals, and then for three days she suffered from extreme pain. She was operated upon and recovered. Nothing in the history, in the way of arrested menstruation, even suggested pregnancy, yet the distended tubes could be easily made out, as the patient was very thin, and there could be no doubt as to the hæmorrhage.

His experience was exactly opposite, in most cases, to that of Dr. Routh, as to the arrest of menstruation followed by hæmorrhage. The history given by the patient, moreover, was often most delusive. The other specimen from a case of Dr. Braxton Hicks was remarkable on account of the well-marked pedicle, showing how easy the operation might be.

Dr. EDIS said that Dr. Aveling had raised a question of very great importance. One who had probably seen more of these cases than any other man—Mr. Tait—had utterly denied the value of the history from a diagnostic point of view, but there were certain symptoms almost invariably in these cases. He (Dr. Edis) was not speaking merely from book lore, for he had operated on one case a few weeks ago, and had several others under observation. He had, therefore, given the subject a good deal of attention. No two cases were exactly alike, but there were certain symptoms that might be relied upon. The first was that, as a rule, the patient distinctly missed a period, it might be only delayed to six weeks instead of a month, but it was missed. In any case there was some peculiarity in the catamenia. Moreover, the patient *thought* she was pregnant, not perhaps on account of menstruation, but on account of certain subjective symptoms and feelings. Then, during the first few weeks there was almost sure to be cramps referable to the

hypogastrium or one or other iliac fossæ. In the case he had alluded to, the patient, a housemaid, while carrying a tray down stairs, had a sharp pang and became collapsed. This pain may occur, disappear, and then recur. Then there was the hæmorrhage from the vagina. In one case he was called in to see a patient who was said to have miscarried at the sixth week, he was even shewn what was said to be the "miscarriage," but this turned out to be a piece of the decidua. He examined her, and found something pushing the uterus on one side, and this something was an extra-uterine fœtation. In these cases, too, the uterus was larger than usual, and was pushed over to one side by an elastic, semi-fluid bag. He remarked that though it was stated to occur more frequently in the left side, his own cases had all been on the right; of course no one symptom pointed to extra-uterine gestation, but when they got a number of these symptoms they could proceed to a diagnosis by elimination. As a rule, the tumour was more or less fixed, it was retro-uterine in Douglas' pouch, but in the early stages it might not fall as low in the pelvis, and consequently it may escape the examining finger. A point which should never be overlooked was examination per rectum. In Germany they rapidly dilated the urethra, and in this way, with another finger in the rectum, ascertain the contour and position of all the pelvic organs. As regards these cases, although everyone might not feel equal to dealing with them, they ought at any rate to diagnose them. The discussion would not have been without utility if it brought this to the notice of the general practitioner. They must call in all their senses to aid in the diagnosis, sight, touch, hearing, &c.

Dr. Aveling had opened up the question as to what they should do when they had made their diagnosis, and as to whether, and with their present knowledge of electricity, they were justified in utilising it for the purpose of destroying the life of the fœtus. He thought the facts before them were not sufficient to warrant a clear expression of opinion. His own impression was that if anybody for whom he had a regard, had

an ectopic gestation, he would not recommend her to be electrified, but would prefer opening the abdomen and removing the mass at once. The cases in which dead fœtuses had been left for long periods of time inside the body without giving rise to symptoms were very exceptional, and the electrical treatment might be the means of causing the very mischief which they were endeavouring to avoid. The subject must be considered to be *sub judice.* They ought to be very anxious to spread abroad a knowledge of the symptoms of extra-uterine gestation. As regarded tapping the cyst, he had no personal experience, but he quoted from Parry, who said long ago that a man would be a criminal who tapped a tubal pregnancy unless he were prepared to go on with the operation and remove it. It could hardly be regared as a safe operation.

Dr. HEYWOOD SMITH said that notwithstanding the greater part of the discussion had turned upon the diagnosis and pathology of extra-uterine pregnancy, yet it was of the highest importance that an influential society as theirs was, should, both for their own sakes and for the sake of countless practitioners, consider and formulate some agreed line of treatment. He was reminded of a paragraph in the papers a day or so ago where, referring to the illustrious patient at San Remo the correspondent said there was perfect harmony among all the doctors as to the line of treatment to be pursued, although there had been considerable divergence among them as to the diagnosis; and he went on naïvely to remark that he had hitherto thought that the treatment of a malady usually had some reference to its diagnosis.

He (Dr. Heywood Smith) thought it was odd that the majority of the speakers at the last meeting, and also a leading article in the *Medical Press* of that day, seemed to imply that the diagnosis of ectopic gestation was impossible in its early stage; he was glad, therefore, to hear Dr. Barnes and Dr. Routh draw attention to valuable points in this particular. He did not wish to delay the Society by going through the various diagnostic points, but he would just remark that with regard to menstruation alone differentiation ought to be easily arrived

at between physiological and pathological cessation. If a woman's menstruation was regular, its sudden cessation, if not due to a cold, shock, or other tangible cause, might presumably be set down as the result of impregnation, especially as in most pathological conditions, where it is present, the oncoming of amenorrhœa is gradual. This symptom, together with the mammary signs, and a lateral pelvic swelling, increasing and producing pain, should, at least, put the practitioner on his guard for further evidence.

With the view of elucidating the subject of treatment in ectopic gestation, he thought it would be helpful to divide its consideration into three stages: (1) the pre-rupture stage, (2) the stage of immediate post-rupture, and (3) that which he might be allowed to call paulo-post rupture.

Inasmuch as hitherto, the second stage (that of primary rupture) has usually proved fatal, and would, in severe cases, continue to do so, unless the abdomen were at once opened and the seat of lesion removed, it stands to reason that, whenever the first stage is diagnosed, the pregnant tube should be removed, so that the woman should not be exposed to the risk of rupture. It seemed to him that to kill the fœtus by aspiration or electricity was bad practice, as it exposed the woman to the possibility of subsequent mischief from the presence of such a foreign body as the shrivelled débris of her child.

With regard to the treatment of the third, or paulo-post rupture period, there would be the additional factor of the life of the child to consider. In the former stages this consideration was of less moment, as of course the mother's life was of infinitely more value than the possible production of a future soul for the secondary life within her. But where the woman had survived the stage of rupture (and he had watched a case many years ago that entirely recovered after rupture), and the child was growing and becoming viable—

[Here the President intimated that Dr. Heywood Smith was travelling beyond the scope of the discussion in entering on the question of the treatment of ectopic gestation.]

Dr. HEYWOOD SMITH remarked that, although others had

made observations on the treatment, yet he bowed to the ruling of the chair.

Dr. FANCOURT BARNES said that Dr. Routh had remarked that it was not necessary to remove the placenta, because in nine cases out of ten it would shrink and disappear. In support of this view, he quoted a case of abortion which he had under his care some time since. The fœtus came away, but the placenta did not. Subsequently another fœtus was expelled, and then two placentas, one of which, belonging to the first fœtus, was shrunken and partially atrophied, while the other belonging to the second was fresh and recent. He thought that this observation bore upon the question of leaving the placenta inside.

Dr. BEDFORD FENWICK suggested that it would be a good thing if the Society appointed a strong committee to investigate the question, and draw up a schedule of symptoms, especially differentiating extra-uterine gestation from small ovarian tumours.

Dr. AVELING, in reply, said that some misapprehension had existed as to the scope of his paper. Some Fellows had appeared to think that he advocated the electrical treatment at every stage of gestation, but that was not so. He thought the speakers at the last meeting might be divided into *electrophobes* and *laparophiles*. To show how absurd was the apprehension of danger resulting from the employment of electricity, he said it had been employed for seventeen years in America without a single case of death. In Dr. Bothwell's case, which had been alluded to by an electrophobe, death was due to rupture of a vessel on the *surface* of the sac eighteen hours after the use of electricity, and in the report it was stated that "electricity had probably nothing to do with the fatal issue." Electricity was only dangerous when improperly applied. Dr. Bothwell had treated twelve cases by electricity with "result entirely satisfactory, and he recommends it on account of its simplicity and its certainty." The laparophiles had two methods of arguing. One was as to the difficulty of diagnosis, but if what Dr. Barnes and Dr.

Routh had said as to the possibility of the diagnosis was correct, he need not take up their time in recapitulation. The other reason advanced was that they had no right to destroy the life of the fœtus. Dr. Heywood Smith had done good service in pointing out the different stages. There could be no difference of opinion as to the propriety of sacrificing the fœtus in the pre-rupture stage. In the pre-rupture stage, Dr. Aveling thought it was very difficult to suggest a better treatment than by electricity. Puncture of the sac had been proved to be a very dangerous experiment. He would like Mr. Tait to answer Dr. Routh's question as to what he would do in the pre-rupture stage if he had to treat such a case. He asked what should be done with a patient at term with a living fœtus. Would Mr. Tait perform primary or secondary laparotomy? Statistics were very much against primary laparotomy at present, with the exception of Mr. Tait's statistics, which gynæcologists of the world were anxiously looking for in print. Other operators had had a terrible mortality, fifteen out of seventeen cases, but Mr. Tait had only one in seven. When Mr. Tait verified his figures and published his cases, then they might be obliged however to acknowledge that primary laparotomy was after all the more desirable. He was glad to be supported by Dr. Barnes in the possibility of diagnosis, and he fully agreed with all that he had said except in respect of puncturing the sac. He did not think that the death of the fœtus was caused by electrolysis, but by the tetanic condition into which the heart was thrown by the passage of the induction current, and no great current was required to do this. Since reading his paper, he had been informed by Mr. Greig Smith that Dr. Blackwood, of Philadelphia, had adopted the tetanic theory as to the cause of fœtal death by electricity.

Mr. TAIT, at the request of the President, said a few words in reply to questions. He congratulated the Society upon the very instructive and interesting discussion which had taken place, which contrasted very favourably with the one which had recently taken place elsewhere. His remarks only applied to the period of rupture as his specimens shewed.

Dr. Aveling was speaking of a condition he had never seen but once, but if he did come across a case of ectopic gestation before rupture had taken place, he would prefer to remove it. He would do this for several reasons. First of all, he would not have been called in if the patient were not ill, and the urgency of the symptoms would justify the treatment. For one case they could diagnose, fifty cases would escape. Further, even if electrolysis were successful, a useless organ was left with the risk of subsequent hyosalpinx recognition. With reference to the growth of the placenta, he said that Dr. Routh had certainly not exhausted the literature on the subject. In Hart and Barber's book there was a page and a-half devoted to the proof that the placenta grew after the death of the child. He was not aware of any case of growth of the placenta after death of the fœtus by electricity, but then the diagnosis in those cases was very doubtful. He expressed himself sceptical as regards Dr. Routh's quotation that electricity could cause the fœtus to be driven along the tube with the uterus. That the growth of the placenta did take place after death of the fœtus was evidenced by his specimens. So far as treatment of extra-uterine fœtus in the paulo-post rupture stage, he said that he should produce his statistics at the proper moment, and not before. In reply to that other question, he would leave the fœtus as long as he could, so as to give it the best chance of living, the more so as the mother's life was not thereby imperilled. He believed that if this course were uniformly adopted, the mortality need not exceed five or six per cent. He said that his opinions had been gradually changing as regards the removed placenta, because experience had taught him that its removal was easier than he had once thought.

Concerning the operations at the period of viability in the case of a living child, Mr. Tait strongly condemned the statistics of Dr. Harris as not being worth the paper they were printed on, being a mere chamber of horrors and not representing sound surgical conclusions.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, MARCH 14, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 37 Fellows, 8 Visitors.

The following were elected Fellows of the Society:—Dr. G. H. Aiken, Dr. J. Hasard, Dr. A. W. M. Robson, Dr. A. H. Wyborn.

The following were proposed for election:—Dr. C. Fancourt Willis, Bombay; Dr. John David Thorburn, Toronto; Dr. Leslie Matthew Sweetman, Toronto; Dr. Isaac A. Stone, Lincoln, Virginia; Dr. Walter Porter Manton, Detroit, Michigan, U.S.A.

Various electric batteries were exhibited by Messrs. Schall, Coxeter, and Down.

Dr. SAVAGE produced two ovaries which he had removed on the preceding day from a married woman, aged 25, who had been confined six days previously of her fifth child. Three days after her confinement she had developed feverish symptoms, for which she was given carbolic acid. She became worse, however, and when Dr. Savage was called in she was verging on delirium and had all the symptoms of peritonitis, with swelling and fluctuation of the abdomen. He advised immediate operation.

This was agreed to. On opening the abdomen the intestines were adherent to one another with recent lymph, and nearly a pint of non-offensive purulent fluid escaped. The ovaries were enlarged and black, and their present appearance failed to give a proper idea of what they looked like when removed. The patient was somewhat better on that (the

following) day, and it was hoped she would do well. He had brought the case before the Society, because of late the operation of opening the abdomen for purulent peritonitis had forced itself upon the profession, and he thought it was desirable that it should become very much more common than had been the case in the past. Unfortunately the operation when done for puerperal peritonitis had not been so successful as when performed in other cases; but it was important they should go on operating nevertheless. At the *post mortem* examination they always found that the condition of things was a distended abdomen, adherent intestines, together with a quantity of more or less offensive fluid down in the pelvis. This fluid must have been produced before death, during the illness, consequently it appeared to him that the only thing to do was to let it out. The patient *must* die if it were allowed to remain, while she *might* recover if it were evacuated. The difficulty was to know when to perform the operation. In obstetrical practice a large number of women had feverish symptoms which scarcely justified operation; but on the other hand, if the operation were done in these cases very much earlier, a large proportion would probably recover. Medical men were becoming alive to the necessity of calling upon specialists to operate, but they experienced a difficulty in deciding when and at what period they would be justified in doing so.

Dr. ROUTH observed that if the fluid which escaped was purulent, it ought certainly to have been evacuated. He asked Dr. Savage if it really was pus that escaped.

Mr. LAWSON TAIT said that if a woman had been confined and had a swollen and fluctuating abdomen, the fluid was uniformly purulent. During the preceding week he had operated three times for acute peritonitis. One case was that of a young woman, at about the fourth month of pregnancy, with a pulse of 160, and a temperature of 40.1C, who had been suffering from acute gonorrhœa. He had opened the abdomen and drained it, and the patient was now doing well. Another case was that of a young woman with acute suppurative peri-

tonitis, from whom at least a pint and a-half of flaky purulent fluid was withdrawn. Her condition prior to operation was so terrible in appearance that he was tempted to refuse to touch her. This patient was now practically well. The third case was supposed to be one of gall-stones, but it turned out to be a case of acute peritonitis. The abdomen was opened, and she also was doing well. A fourth case occurred in which he had been telegraphed to hold himself ready to operate on the Friday, but the patient died on the Tuesday. He thought no medical man was justified in allowing his patient to die without having the abdomen opened. He said there were two classes of cases, one where there was systemic infection from the beginning, with the bulk of the mischief expressed in the peritoneum, and in these they did not get good results; the second class of cases were those in which the expression was entirely local. Of the latter, five-sixths could be cured. It was impossible to tell beforehand with which class of cases they had to deal, and he believed it was their duty to open the abdomen in every case of peritonitis, and that, too, before they got to a stage to enable them to say whether there was pus or not.

The PRESIDENT said he was quite certain that there were many so-called hopeless cases of peritonitis which might be saved by a timely resort to this operation. In all cases where any doubt existed, as to their exact nature, a second opinion should be taken, and the patient given the chance of having her life prolonged by a timely operation.

Dr. R. T. SMITH asked Mr. Tait whether he always drained the abdomen in his cases? (Mr. Tait, yes). He asked Dr. Savage whether a vaginal examination had been made in his case, and whether the patient had pelvic cellulites or pelvic peritonitis? He thought that in the latter case it would always be desirable to operate.

Dr. MACAN objected to operative interference in cases of ordinary peritonitis, but admitted it in cases of encysted peritonitis where the disease had retrogressed, having a localised collection of pus.

Dr. CHALMERS said he had long been convinced that there were cases in which operation alone could save the patient. Just two months previously a patient of his, notwithstanding every care, died of puerperal septicæmia. He had had the possibility of the occurrence in his mind before the confinement. Although he was not prepared to say what were the exact signs to look for, he thought it was possible to foresee its occurrence in certain patients. In several cases where it had occurred he had made up his mind that it was to be feared.

Dr. SAVAGE, in reply, said that the temperature in his case went up to 103.5°F, and he thought he could distinguish fluid. He had come to his conclusion on the strength of the delirium and diarrhœa.

Dr. HEYWOOD SMITH exhibited the tubes from a case of pyosalpinx and hæmatosalpinx, on the same subject. They were both adherent, the adhesions being separated with some difficulty, showing that it was not merely tubes affected with purulent contents, but contracted adhesions. Both tubes were considerably thickened. He also showed a portable automatic douche for use, in circumstances where the ordinary hydrostatic douche was not convenient. It worked by spring pressure, on an indiarubber bag, which was separable, and could be applied to other uses.

Dr. R. T. SMITH showed a fibrous tumour of the uterus removed fifteen days previously by abdominal section. The interest of the case lay in the fact that she had been treated by electricity without benefit before resorting to the operation. The patient had been suffering from menorrhagia for four years. She had been admitted to the hospital, and had been treated on Apostoli's plan, with currents ranging from 80 to 800 milliampéres. Subsequently the positive pole was substituted with a current of from 500 to 700 milliampères. They noticed that the uterus became very hard, and remained for about twenty-four hours in a state of contraction. He then sent the patient away for three months, to see if any benefit accrued, but she returned about a month previously almost dying from loss of blood. The tumour rose to three

inches above the umbilicus, and as the patient was unmarried, and the parts narrow, he was of opinion that if they had attempted to enucleate the tumour, they would have lost her.

Dr. INGLIS PARSONS criticised Mr. Smith's assertion that a current of 800 milliampères had been used. He thought there must be some mistake as to that. He observed that a current of that strength was nearly enough to give an ordinary electric light, and would certainly destroy the whole skin of the abdomen.

Mr. TAIT said that the same point had occurred to him; when he was at Paris he had made some enquiries, and he found the same scepticism existed as to the reading of the galvanometer as existed here. Some of the best electricians in this country had told him that Gaiffe's electrometer was a mere toy, but personally he could offer no opinion on that question. He had been told in Paris that the best results were obtained when they did not turn the current on at all.

Dr. RUTHERFOORD asked whether the tumour was hard or soft, and whether any microscopical examination had been made. He had seen currents of 800 milliampères used, and the galvanometer had since been tested by a very competent electrician and certified to be correct.

Dr. STEAVENSON mentioned a case in which a current of 700 milliampères was said to have been used, and he had at once enquired whether the patient was under chloroform, for he did not believe that any woman could bear it without. At St. Bartholomew's they never went beyond 250 milliampères. Gaiffe's galvanometer registered higher than others. The vertical galvanometer did not register accurately after a lapse of time. When tested, one of Gaiffe's galvanometers registered double that of Coxeter's.

Dr. ROUTH said that a great deal depended upon the amount of moisture which was contained in the clay. If the clay were dry, the patient suffered very soon, but if wet, she could bear a much larger amount. He always took care that the electrodes were wet. Under any circumstances he denied

that it was possible for the patient to carry the current beyond 250 milliampères without causing intense pain.

Dr. FANCOURT BARNES, in reference to the hardening of the tumour under the current, explained that it was the uterine wall that contracted. He could not admit that a purely fibroid tissue could so contract, since there was nothing in it to contract.

Dr. AVELING deprecated partizanship in discussing the matter. He said that after the verdict from men who had tried it, they were bound to give it a trial. He was using it in four cases, and he quite agreed with what Dr. Routh had said. It was an important point to get the skin thoroughly wet. As to the 800 milliampères, he had found it difficult, for his own part, to get a patient to endure 200 milliampères without chloroform. His experience was that a tumour might be considerably reduced by that dose, and he had proved this in two cases by actual measurement. It was useless to make a violent opposition to facts which were of daily observation. There were cases which were not suitable for electrolysis, and others which were not fit cases for operation. Moreover, some patients refused any operation involving danger, but would willingly submit to be treated by electricity.

Dr. R. T. SMITH, in reply, said that the galvanometer used was Thistleton's. The tumour was always soft before the current was applied. The skin was blistered on two occasions. The patient did not have chloroform on either occasion. Personally he had no definite opinion on the subject. The specimens were not brought forward on that account, although it had an additional interest because of it.

On the Action of the Constant Current on Fibroid Tumours. By J. INGLIS PARSONS, M.D., Assistant Physician to the Chelsea Hospital for Women.

As this method of treatment has excited a good deal of controversy, I will take the liberty of asking the Fellows to approach the subject with an open mind, and to remember

the bitter opposition with which the pioneers of abdominal surgery had to contend, although the marvellous results now obtained in that field of treatment show how unfounded and bigoted such opposition was. On more than one occasion, when expressing my opinion, founded on practical experiment, that electricity might be capable of doing good to cases unfit or too dangerous for operation, I have been met by the remark, "Well, I do not believe in it, but then you see I know nothing about the subject." Surely if a man has not studied a subject at all, his opinion should be neutral, and before condemning it he should test it.

I have no intention to-night of bringing forward any cases, nor will I go so far as to express any decided opinion on the merits or demerits of electricity. Through the courtesy of Dr. Edis and my other colleagues at the Chelsea Hospital, I have had the opportunity of treating various cases, but I think it better to watch them for a further period before bringing them before the Society. So far, the results are satisfactory and sufficient to encourage one to further endeavours. I would like to point out that as we are now able to give electricity in exact doses, its administration is placed upon an entirely new basis, and this fact alone is sufficient to warrant patient investigation, apart from any declarations and statements made by continental physicians, whether they be correct or incorrect. There is hardly a drug in the pharmacopœia, whose action does not depend on the dose. Who would ever think of writing a paper on the action of mercury without knowing whether the dose given amounted to one grain or five grains? This is practically what we have been doing with electricity until the introduction of a reliable galvanometer. At present our treatment is grounded almost entirely on empiricism. We know that if a constant current is applied in a certain way we have good reason to suppose that a certain result will follow. But how that result is brought about, we are more or less in the dark. What we have to endeavour to ascertain is, in what directions electricity is capable of effecting a cure, when other and

more simple means are wanting. No doubt some men will be found, if there are not some already, who will look upon electricity as a panacea for all evils, just as one hears of certain physicians who only practice "the dry treatment," and another the wet treatment, another mechanical, and so on.

Now in order to arrive at any conclusions, it appeared to me necessary to find out something more about the changes that take place when a constant current is passed through the tissues.

Electrolysis.—The most important of these changes, and, therefore, the first to be considered, is the partial or entire decomposition of certain molecules through which the current passes, and known by the name of electrolysis.

Whenever a current, however small, is passed through the tissues, this decomposition takes place, and the amount of decomposition is jointly proportional to the strength of the current and the time that it lasts. The application of a test paper to the area touched by the electrodes, before and after the application of the current, will be sufficient to show the presence of acids and bases at their respective poles, and which were not present before the application took place. It appears to me that two other effects result from this primary decomposition. So that for practical purposes electrolysis may be subdivided as follows :—

1st. There is a decomposition, partial or entire, of certain molecules.

2nd. There is the local action at the poles caused by the collection of acids and bases, the result of this decomposition.

3rd. There is the effect produced by the passage through the tissues of certain elements found only at the poles, and which passage Faraday called "the transport elements."

It is necessary to consider each of these points in detail. With regard to the first, an important and practical question at once arises, viz. : Does the decomposition take place only in the tissues in contact with the electrodes, or does it take place throughout the tissues traversed by the current? Supposing the first of these only to take place, it stands to reason

that in order to cause decomposition in a fibroid tumour, it would be necessary to bring the electrode in direct contact with it; whereas if the decomposition takes place throughout the tissues traversed by the current, this necessity ceases to exist. Whoever has used this treatment, will understand the difficulty of solving the question at the bedside. I therefore devised four experiments to see whether the principle would hold good of saline solutions.

1st Experiment.—Three glasses are connected together by two pieces of thick cord, saturated in the solutions contained in the glasses. The centre glass is filled with a solution of iodide of potash (which is easily decomposed by the direct application of the current), the two outer glasses are filled with a solution of chloride of sodium, each solution having a sp. gr. of 1080. Into each glass a pinch of starch powder is placed. The two electrodes were then introduced one into each of the outer glasses. Now if any decomposition of the iodide of potash took place, a blue discolouration would appear at the positive pole. A current of 100 milliampères was passed through the circuit, but no decomposition took place in the iodide of potash, much to my disappointment. The same experiment was then repeated with plain water in the two outer glasses, with the same result. A third experiment was then tried, to ascertain whether it might not be possible, that cells lying in the space between the poles traversed by the current, would part with some of their constituents in order to supply those in contact with the electrodes with some of the materials, of which they have been deprived by electrolysis. Into each of the glasses a solution of iodide of potash was placed having a sp. gr. of 1020. The circuit was again made, and a current of twenty-five milliampères passed for twelve hours. The outer glass containing the positive pole was a deep brown colour at the end of this time, from the iodine liberated by electrolysis and held in solution by the water. It occurred to me, that as the decomposition proceeded in the outer glasses they might draw on the iodide of potash in the centre glass. If this

had taken place the sp. gr. of the solution in the centre glass would have been lowered. However, on taking the sp. gr. of the solution in the centre, there was no alteration whatever, while of the two outer glasses, the sp. gr. was raised in the one containing the iodide pole, while it was lowered in that containing the potash and negative pole. This difference was due to the atomic weights of the two elements. If any one wishes to repeat these experiments, I may tell that the resistance of the apparatus used was about 1,000 ohms, and in order to obtain a current sufficiently strong I was obliged to go to one of the electric light companies, and perform the experiments down in the cellars of one of our large clubs. A further experiment was then carried out as follows:—A current of one milliampère was passed for ten seconds through the web of a frog's foot and the operation watched through the microscope, one inch objective. The changes occurring at each pole could be examined, and of these I shall speak again, but there was no change to be seen in the intervening space. The circulation continued just as before, and nothing could be made out. It would then appear to be necessary for the electrode to come in contact with the tumour, if we wish to cause decomposition, or what I would designate as "primary electrolysis."

I will now pass on to consider the local action at the poles, caused by the collection of acids and bases resulting from the "primary electrolysis."

Now this action is entirely distinct from the first, so much so that by various methods of application it can be utilised either partially, to its fullest extent, or almost entirely prevented. By its means we can intensify the local action on the tissues. The nature of this action is entirely chemical, and I would propose to call it "the chemical action of electrolysis." Any one who has applied a metal electrode to the skin, will have noticed how much more painful it is than when the same electrode is covered with leather or some other substance capable of taking up the products of primary electrolysis, and so mitigating their action, although in each instance the intensity of the current is exactly equal.

Whenever we wish to pass a current through a uterine fibroid, it becomes necessary to place one electrode on the skin of the abdomen, and to prevent any chemical action, it is necessary to place some substance between the skin and the metal electrode, which shall be capable of absorbing the products of decomposition, and so prevent it from hurting the skin. For passing strong current for any length of time, it is necessary to have this layer of some thickness, otherwise it becomes saturated with acids and bases, and its chemical action on the skin then begins. The electrode, on the contrary, which is in contact with the fibroid, should be kept uncovered so as to take advantage of this chemical action. To do so to the fullest extent, it is necessary to puncture the tumour, and this should if possible, be done to the extent of about one inch, because I have found by experiment that the acids and bases which form at the respective poles diffuse through the tissues to that extent when a current of 200 ma. is kept on for thirty minutes.

With regard to the different action of the two poles. This appears to me to be entirely due to the difference in their chemical constituents.

At the positive pole acids are found. At the negative pole bases are found. These bases, as one would naturally expect from the chemical composition of the tissues, consist chiefly of hydrogen and alkalies.

If dilute caustic alkalies be applied to soft tissues they liquefy them, and cause considerable pain. If dilute acids be applied they cause coagulation, and have a benumbing influence on the nerves (one of the best acids for producing this is carbolic acid). The same effects are produced by the negative and positive poles respectively.

For practical purposes it is worth while to consider what difference there is, if any, between the destructive effects of the two poles. There appears to be an idea that the negative pole is more powerful than the positive. The amount of primary electrolysis must of course be equal for each pole, so far as we at present know, while the effects produced by the

secondary chemical action is quite as great at the positive if not greater than at the negative. Because the alkalies liquefy tissues, it does not follow that their action is more destructive than acids, which coagulate and even clear them.

To begin with, the acids form a much larger proportion of the soft tissues than the bases do. We should, therefore, expect the quantity of acids at the positive pole to be much larger than the quantity of bases found at the negative, excepting, of course, hydrogen, and consequently destructive action greater. My friend, Dr. Pitt, drew my attention to the fact that when currents are used by physicians in ordinary medical cases, if any slough takes place in the skin, it is usually at the positive pole.

Referring to the experiment before-mentioned, on the web of the frog's foot, the area of coagulation caused by the positive pole was ten times as large as that caused by the negative pole. In fact the only change to be seen at the latter consisted of bubbles of hydrogen gas, and their presence was a matter of perfect indifference to the tissues round, for the circulation could be seen going on right underneath the bubbles.

Similar results were obtained by passing a current of 50 ma. for 10 minutes through a fresh specimen of sheep's blood. At the negative pole only bubbles of hydrogen gas were found mixed with the blood, while at the positive pole a clot formed measuring half-an-inch across, and the blood in contact with the platinum needle was charred by the acids. A more striking proof is afforded by the tumour which I hand round. This is a small sub-peritoneal fibroid about the size of an orange. I am indebted to the courtesy of Dr. Snow, of the Cancer Hospital, as it was through him I procured it, within one hour after its removal from the living body. Two needles were at once inserted to the depth of half an inch, and connected to the two poles of a battery. The current was kept on for one hour and a-half with an intensity of 200 ma. A crackling noise produced by the decomposition could be distinctly heard. A large portion of the hydrogen gas,

not being able to escape at the side of the needle, found its way through the thickness of the tumour to the surface, where it could be seen escaping in bubbles. I found a practical benefit only recently from knowing this fact, when one of my patients became much alarmed at the bubbling she said she could feel in the abdomen. One might have thought that the needle was in the abdominal cavity, but I was able to assure her that there was nothing dangerous going on beyond the escape of a little gas, and she was none the worse for it. (Mrs. W., case under Dr. Edis.)

At the end of one hour and a-half the current was broken and a section was made of the tumour, and that portion of it acted on by the current cut quite hard and gristly, as compared with the rest. This change was also perfectly apparent to the touch. On making some fresh sections and examining them under the miscroscope, I found that, of the portion in immediate contiguity to the needle, everything had disappeared except the fibrous tissue, and this result was obtained at both the negative and positive poles. Sections taken from the other parts of the tumour by Dr. Rutherfoord showed the usual structure of a myoma. This was the case even with the portion that had undergone the chemical action produced by electrolysis. In this instance there was no difference between the destructive effects of the two poles. The experiment also shows how much greater is the resistance of fibrous tissue as compared with others. This effect was produced within two hours after the removal of the tumour from the living body, when the abdomen could scarcely be said to be dead, and so affords some ground for the belief that a like effect could be produced on a tumour in the body, provided the needle could be introduced to the same depth. I have treated one case in this way with most satisfactory results, and shall read the details on a future occasion. It is necessary, however, to remember that by this method not only is there a decomposition or primary electrolysis, but also, that the full benefit is obtained from the chemical action produced by that decomposition. Although in this specimen, the fibrous tissue

appears to be unaltered, it is quite possible that some change has taken place, which is unappreciable to the eye. There is some ground for this belief when we call to mind the brilliant results obtained by surgeons in the treatment of stricture of the urethra by electrolysis, with the negative pole in contact with the stricture. Here I would suggest, that acting on the lines laid down for urethral stricture, we may possibly have a more efficient weapon for producing a permanent benefit in cases of stenosis of the os internine. The resisting power of fibrous tissue exhibited in this specimen appears to me to offer an explanation of the change which takes place in these tumours under treatment. They become smaller and harder, but do not as a rule disappear entirely; probably the greater portion of the fibrous tissue remains behind as an inert mass.

With regard to the third action of electrolysis, viz., the transport of elements, we are still very much in the dark as to its action, still more as to its effects on living tissues. If a solution of any salt or even simply water be acted on by the current, what takes place? Let the solution be iodide or potash. At the negative pole potash alone appears; at the positive pole iodine alone appears. Now whether the decomposition takes place at both poles, or at only one pole, we are forced to admit that either the potash or the iodine or some of both from each pole has to cross the intervening space, and the curious part is, that elements cannot be detected during their transit from one pole to the other. At present we do not know, beyond the broad distinction between acid and bases, what chemical substances are found at each pole when a current is passed through the body. It is, however, conceivable that the complex molecule of albumen, when it undergoes decomposition by the current, furnishes a number of bodies that may have some very decided effect on those tissues which they traverse, although such tissues do not apparently undergo actual decomposition in the same way that those in contact with the electrodes do. This may appear a mere theoretical consideration. But it is on the contrary a very practical one. If such an effect does take

place, we have a means of getting at those tumours which are not within the reach of electrodes. And I would advance the hypothesis, "that while the ordinary tissues of the body have the power of recuperating any effect produced on them by the transport of elements, the cells of tumours being of lower vitality might be checked, and in their growth, perhaps, in time destroyed by this method."

The subject requires further investigation before any conclusion can be arrived at.

Several experimenters have taken advantage of this transport of elements to introduce substances into the body, Von Bruns Munk (Elb. electro-therapeutics, p. 129) in Germany, and Onimus and Legros in France (Traité d'Electricité medicale, p. 210). It is obvious that if medicinal substances can be made to pass through the tissues in this way, we have a means whereby the action of elements, during their transport through living tissues, may be very considerably added to. With a view of putting this to the test, I have on several occasions swabbed the uterine canal with a saturated solution of iodide of potash, then passed the negative pole, and placed a solution of starch on the skin of the abdomen with the positive pole in contact, and turned on a current of 200 ma. Now, if such an action took place, the iodine ought to appear on the skin and discolour the starch, but nothing of the kind took place. I also repeated the same experiment with a cup-shaped electrode that I had made two years ago for pelvic cellulitis. This was filled with the solution. The result was negative again. However, I have some reason to believe that the initiative is taken by the positive pole, so that the subject requires further investigation. I found that if two glasses, one containing plain water and the other a saline solution, be connected by a damp cord, so that they have no direct communication, and a current is then passed from one to the other, no decomposition takes place with the negative pole in the saline solution. If the poles be now changed, so that the positive is in the saline solution, a decomposition is at once set up.

Effect on the circulation.—Since these fibroid tumours are surrounded by a capsule exceedingly rich in vessels, it becomes necessary to consider what action the constant current may have on them. Onimus and Legros are the chief upholders of the view that with a descending current blood vessels dilate, and with an ascending current they contract (Traité d'Electricité medicale, p. 280). On the other hand, their own investigations tend to show that the unstriped muscle cells, such as are found in vessels, only contract at the make and break of the current, and not during its passage. It occurred to me that the best way to test it would be to observe the vessels of the retina. Alterations in these may be seen under other conditions, and, therefore, why not under the influence of the current provided any change does take place. My friend, Dr. Basil Walker, who is an adept with the opthalmoscope, was kind enough to bring two of his hospital out-patients to my house, with the fundus healthy in each case. He then examined the eye while I passed the current.

1st Experiment.—Dr. B. Walker examined the fundus to note the size of the vessels before the application. The positive pole was then placed on the nape of the neck, and the negative pole on right temple. At the make of the current the patient experienced a flash of light. The intensity was gradually raised from 1 to 25 milliampères, and continued for five minutes.

2nd Experiment.—The above was then repeated, with the position of the poles reversed. Dr. Basil Walker was unable to detect any difference either during or after the passage of the current; nor did the position of the poles make the least difference.

3rd Experiment.—This was done in same way, only the poles were placed in the position used for the so-called galvanisation of the sympathetic. One pole is placed opposite the angle of the jaw, while the other is on the opposite side near the seventh cervical vertebra. At the make and break flashes of light were again experienced. Dr. Basil Walker examined before, during, and after the application, but could find no

change in the vessels whatever, although the current was kept at 10 milliampères for ten minutes.

4th Experiment.—The experiment repeated with the poles reversed, no change to be seen.

Messrs. Onimus and Legros state that the changes can be well seen in the web of a frog's foot, under the miscroscope. I therefore tried the experiment in every conceivable way, and several times both with ascending and descending currents with an intensity of 1 ma. Great changes are certainly seen to take place in the vessels, but the results are not constant. Sometimes the circulation was accelerated, sometimes retarded, and occasionally stopped, and this occurred both with the ascending and the descending current, but there the same results could often be obtained by simply touching the frog with the electrodes, without any electricity!! and so it appears to me that this method has no practical value.

An increase in the circulation no doubt takes place locally in the area affected by electrolysis, but I believe this is secondary to the chemical action of the current, and would occur if a similar injury to the tissues was brought about by any other means. Even this can be obviated at the indifferent pole by making the pad of material between the metal electrode and the skin extra thick, so as to absorb the chemical products as they form.

Action on muscular fibres of uterus.—One more question requires consideration. Is there any contraction of the uterus during the passage of the current? At the make and break a contraction no doubt takes place. Onimus and Legros say that one can actually stop the contractions of the uterus during parturition by passing a constant current. They proved it by opening the abdomen and acting on the uterus of bitches, during parturition. I have also noticed during the applications in the human subject, that the internal electrode is never grasped by the uterus, although this effect is soon produced if the current be reversed quickly, each make and break causing a contraction.

To sum up. The conclusions I would draw are these:—

1st. That electrolysis takes place at both poles.

2nd. That a chemical action secondary to the electrolysis also takes place at both poles, and appears to be most destructive at the positive pole.

3rd. That electrolysis does not appear to take place in the intervening space between the poles traversed by the current.

4th. That in all probability the transport of elements has some effect on the living tissues, through which it takes place.

5th. That no change takes place in the vessels during the passage of the current, except a local hyperæmia, due to the chemical action at both poles.

6th. That no muscular contraction takes place in the uterus or tumour, except at the make and break of the current.

Description of method of application.—I do not consider it at all necessary to use clay for the external electrode. It is messy, and a great nuisance to keep in order. To apply strong currents, it is necessary to reduce the density to a minimum, where the indifferent electrode is placed. This practically means making the electrode as large as possible. Not only must it be large, but it must touch the skin all over the surface. The one I use is made of lead or copper, measuring 9 inches by 7 inches, and curved to suit the contour of the abdomen. Between the metal and the skin, several layers (some 4 to 6, according to thickness) of linen are placed, previously damped in water. Any napkins or cloths will answer the purpose, provided they are not too rough. It is most essential to see that each layer lies evenly on the other, and that there are no rucks or ridges. If there be any the current will be concentrated on the projecting surface. The substance of the linen is rather less than clay. The patient can hold the electrode in position herself, but she is apt to tilt it to one side or the other, and if that be done, the current becomes concentrated there, and a destruction of skin will follow. Since the current, from a metal electrode of this kind comes off chiefly from the edges, it is better either to round off the edge or run an insulator round it. I have used an intensity of 300 ma. in this way, and if the points I have indicated are attended to it will be found to work satisfactorily. The cavity of the uterus

will often be found to be lengthened even by 5 inches, and the diameter of the canal varies very much. In other cases, although the canal may be large, it is encroached upon at one point, and there is more or less of an obstruction. The electrode which I show here has been designed to meet these difficulties. The insulator is moveable, and can be adjusted to any length required. The handle is larger than usual so as to give more command over the instrument. The sounds are made of different calibres, to suit different cases.

With regard to the frequency and duration of the applications, I do not agree with Apostoli in laying down such definite rules. Each case must be taken on its merits. For instance, only recently I have treated a patient of Dr. Edis's with galvano-puncture. The applications were made every other day with a duration of thirty minutes and a current intensity of 200 ma. to 250 milliampères, and the patient was none the worse. This is about double the maximum allowed by Apostoli.

Whenever puncture is employed it is necessary to take antiseptic precautions. Whether this be done by ensuring the absence of any septic matter by attention to strict cleanliness, or whether it takes the form of using such materials as will neutralise the action of any dirt or other matter, the result in each case will be satisfactory and practically comes to the same thing.

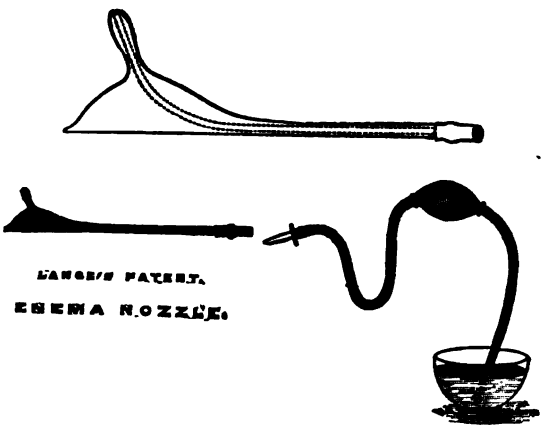
With regard to the position of the patient. The dorsal one depicted by French authors is most indelicate and quite unnecessary. Let the patient be placed on her side with the legs drawn up to a right angle with the trunk, and both arms in front to hold the external electrode.

Dr. BANTOCK proposed and Dr. SAVAGE seconded a resolution, that the discussion on the paper be adjourned to the next meeting. This was carried.

The Society then adjourned.

REPORTS AND ANALYSES.

Mr. H. J. Lange, of 47, Arthur Road, Tollington Road, N., has invented a new enema nozzle, which is designed to avoid the difficulties experienced in the self-administration of an enema. The nozzle, which is simple in construction, can easily be passed into the rectum without fear of any injury.



With this nozzle the patient is enabled to take an enema in the sitting posture, whilst using any apparatus he may happen to possess. We have found the nozzle to be easy of application and satisfactory in its working. It is made of vulcanite and is sold at a cost of three shillings and ninepence, postage paid.

CLINICAL REPORTS.

Cæsarian Sections. By Dr. F. WILSON, Cape Colony.

I was called to attend Maria van der Westhuizen on the evening of May 16th, 1887, and found her suffering from all

the symptoms of abortive labour. On enquiring I was informed that she was seventeen years old and about a year married. On examination I found her to be a primipara, and on measuring the antero-posterior diameter of the pelvis with Greenhalgh's pelvimeter found it to be 1.25 inches, the whole of the passage being almost blocked by a tumour, apparently an exostosis, growing from the promontory of the sacrum. As there seemed no chance, under the circumtances, of delivering by any means, *per vias naturales*, I decided, with the consent of the family, to perform hysterotomy. Having attended to the rectum and bladder as usual, I placed Mrs. van der Westhuizen in the proper position and fixed her to the bed by two sheets. Having made an incision 7 inches long extending from just below the umbilicus almost to the pubis along the linea albu through skin and fascia, I divided the peritoneum, using my fingers as directed. The uterus was immediately seen, and having made an incision therein, 5 inches long, between fundus and cervix, I seized the child by the feet and easily extracted both child and placenta.

I must mention that on making the uterine incision, I fixed each end of the same to the outer wound by a stitch of whipcord, which was afterwards removed.

On removing the child, placenta and membranes (after removing the stitches), the wound in the uterus immediately contracted, and not judging it advisable to disturb the wound, to pass a probang through the os uteri (which I had neglected to do before removing the stitches), I proceeded to close the outer wounds by means of silver sutures placed closely together, taking care to pass the sutures through the peritoneum to secure apposition of the peritoneal surfaces. (The uterine wound was not closed by suture.) Before closing the wound I searched the peritoneal cavity for coagula, but found little, as the hæmorrhage was surprisingly small.

I have omitted to state above that I drew off the liquor amnii with an ordinary enema syringe. Above the stitches I dressed the wound with lint, wet with carbolized oil, and

above this several broad bands of plaster and a good flannel bandage. No anæsthetic was used, and the woman gave no evidences of feeling pain beyond a scream on feeling the first incision and at intervals a sighing groan. From the first incision to the last dressing the operation lasted one hour, forty-two minutes. After the operation, as the pulse was almost imperceptible, I gave her brandy and ammonia in drachm doses, in water, each ten minutes till the pulse began to rise. For the first twenty-four hours after the operation, I gave her only brandy and coffee, with a suppository of pil. sap. co., and twice quarter of a grain of morphia subcutaneously. The womb was also twice a day syringed with one in forty carbolic solution. The child, a boy, was born alive, and is still living. The mother made a good recovery, the wound having almost completely healed when I removed the stitches on the seventh day.

As there was no skilled attendance, I found it impossible to obtain a register of pulse and temperature. The highest temperature observed by me was 160° on the third day. The highest pulse was 120° on the same day.

Present during the operation (midwife), Ziena Wagenaar, H. G. Oelopigie.

Case of Embryotomy. By Dr. F. WILSON, Cape Colony.

On September 7th, I was called to attend Margrita van Zijl, æt. nineteen, primipara, and found her suffering from the symptoms of abortive labour. On examination and measurement of pelvis with Greenhalgh's pelvimeter, I found antero-posterior diameter to be only 1.75 inches, and decided to again employ the ecraseur as far as possible. After perforating I proceeded to snare successive portions of the head with the wire loop of the ecraseur,[1] each portion being removed by finger and forceps. Again, I noticed the absence of spicula of bone. The trunk was also treated in the same way after evisceration. I did not find any insurmountable difficulty, it being only necessary to keep an accurate picture of the

[1] Barnes' method.

uterus and its contents before one's mind's eye. The operation was, however, tedious, taking altogether nearly four hours, but I am certain that I should not have succeeded by any other means *per vias naturales.*

The old lady who assisted me, and who witnessed this, informs me that there were more than one hundred fragments. I also found it necessary to replace the wire of the ecraseur by a fine piano wire, which I re-annealed by heating in charcoal and plunging into oil.

Mrs. van Zijl made a good recovery, just as after an ordinary confinement. The cause of pelvic deformity was rickets.

Ovariotomy in a Woman aged 80 *years.*

By Dr. E. MATTHEWS OWENS, Brisbane.

I have very great pleasure in communicating the following extract from a letter from my old pupil and assistant, E. Matthews Owens, of Brisbane, Queensland, narrating a case which certainly is a marvellous example of pluck on the part of the patient, and proper boldness on the part of the surgeon.

LAWSON TAIT.

I was called in consultation on December 1st, by Drs. Purcell and Clowes to see a lady, Mrs. S., æt. 79 years, 10 months, who was suffering from a tumour in the abdomen. On visiting her I found her to be a thin wiry woman, with a tumour presenting all the symptoms of an ovarian tumour, the girth of which was forty-three inches. She was suffering great distress, and was most anxious for some relief. After consulting together, and seeing what a good subject she was, and her great anxiety for relief, I recommended her to have it removed, to which she readily consented. She was removed to a private hospital, where, on December 8th, at 8.30 a.m., I operated in the usual way with an incision of two and a-half inches; chloroform was given, ether being subcutaneously injected every few minutes during the in-

halation. The tumour proved to be parovarian, was shelled out, no ligatures being used. The toilet of the peritoneum was carefully attended to, and wound closed. First twenty-four hours she had warm brandy and water by mouth. Stitches were removed fourth day. She sat up ninth day, and went home quite well on the thirteenth, twenty days from her first being seen. There was slight vomiting on the second day, and rise of temperature fifth day, both of which were accounted for by little error on nurse's part, and were quickly overcome.

I was ably assisted in the operation by Drs. Clowes and Purcell.

Remarks.—It may be asked why I operated on so old a patient. I did it, first, because her distress was so great, and she so longed for some relief. Secondly, because I thought from her physical condition she was more likely to recover than many patients twenty years younger. Thirdly, because she herself wished either a radical cure, or her sufferings to end. As the result showed, the decision was a wise one. I would remark that Queensland cannot be so unhealthy a place, for this old lady has lived here forty-six years. I cannot conclude without paying great tribute to her pluck in deciding to have such an operation performed at her time of life, and she deserves to have a prolonged lease of life.

A Research into the Coincidence of Ovulation and Menstruation. By LAWSON TAIT, F.R.C.S., President of the British Gynæcological Society, &c., &c.

Between October 31, 1884, and the end of May, 1885, I removed the uterine appendages in fifty-one cases, for various reasons, and in the great majority of these cases a very careful research was made into the relations of the time of the menstrual month at which the operation took place, and the conditions of the ovaries as far as ovulation was concerned. Of these cases those in which the ovaries appeared to the

naked eye to be more or less healthy were given by me to my assistant Miss Clark, who has made such careful observations of them that I present them *in extenso.*

In case of the great bulk of the other ovaries, they were so disorganised that practically no kind of normal ovulation was discernible in them; those I examined myself. They were either broken down by suppuration, occupied by cysts, or so altered by chronic inflammatory disease as to present nothing of the character of normal ovarian structure, and therefore all these cases, or nearly all of them, go to prove that no kind of pathological change in the ovary makes any difference in menstruation. This has been long known to be the fact concerning cystoma, and if it were true that ovulation was the exciting cause of menstruation; that at every menstrual period a follicle was ripened, burst, and discharged, *vid* the ovum; then we have the singular fact concerning this interesting organ that diseases of any kind affecting its structure, even cancer, do not interfere in any way with the fulfilment of its function. We should also have the singular fact that removal of the organ does not apparently interfere with, in many instances, the sequence of its function, for in many cases where both ovaries are removed menstruation is carried on for some considerable time after. In those cases in which, as I have already said, the ovaries appeared more or less healthy, Miss Clark has made very careful dissections of them and has put on record what she found.

It will be seen by the most casual investigation of these dry details that hardly a healthy ovary can be found amongst the lot, and many of them go so far as to represent, as in Case XVII., practical destruction of the organ. In cases of myoma and inflammatory disease of the Fallopian tube, the function of menstruation is exaggerated, and always altered very materially; whereas, when the tube and uterus are not so affected, and the ovary alone diseased, no such alteration of menstruation is noted. When there is disease of the tube and no disease of the uterus, menstruation is exaggerated, and correspondingly, when there is disease of the uterus and no

disease of the tube, again menstruation is increased, alike in frequency and quantity. We are therefore driven to the conclusion that the function of menstruation must be associated with the uterus and tube; that is practically with the one organ, for the Fallopian tube is but an extension of the uterus; indeed, what we call the Fallopian tube is truly a part of the uterus, the true Fallopian tube being little more than the ostium externale.

I propose to divide the cases noted by Miss Clark into three groups; and, although it is perfectly evident that each reader of the notes may be disposed to arrange them in a fashion of his own, if we arrange them at all on the theory that ovulation and menstruation are coincident, we must accept one principle—Fawsitt's division—which is that under the belief that menstruation is excited by the presence of a ripe follicle, we must have clear evidence that the operation has been at or near the time of menstruation, that there is a follicle on the point of rupture, that it has just ruptured, or that it shows such appearances of rupture that, dating its appearances backwards from the time of the operation to the time of menstruation, those appearances of rupture are compatible with the time that has elapsed. On this principle I find that out of twenty-eight cases there are only three which go to show that menstruation and ovulation are coincident; on the contrary there are seventeen cases which go to show that ovulation is continually progressive (at what rate we have no notion at all), but that it is not coincident with menstruation. Then there is a third group of eight cases which I label doubtful, because it is impossible to see what their relations are; but, putting on its trial the ovulation theory of menstruation, in these doubtful cases they must be regarded as evidence against it, because it is clearly evident where any evidence exists, that as no inherent testimony supports the doctrine, it must be considered as testimony subverting it.

Group 1.—Cases which go to show that menstruation and ovulation are concurrent: III., XXII., XXVIII.

Group 2.—Cases which go to show that ovulation is con-

tinually progressive, and not coincident with menstruation: I., II., IV., V., VI., VII., XII., XIII., XIV., XV., XVII. XVIII., XXI., XXIII., XXIV., XXV., XXVII.

Group 3.—Cases doubtful: VIII., IX., X., XI., XVI., XIX., XX., XXVI.

NOTES OF APPEARANCES IN THE APPENDAGES OF TWENTY-EIGHT CASES OPERATED ON BETWEEN OCT. 31, 1884, AND MAY 23, 1885. BY MISS A. CLARK, M.D.

I. Operation for Parovarian Cysts, Oct, 31, 1884. *Last cat. Oct.* 19 *to* 24.

Right Ovary.—Follicle $\frac{1}{8}$ diameter with wall thinned on surface of ovary, containing clear fluid.

Follicle appeared on point of bursting.

Corpus Luteum $\frac{1}{8}$ below superficial cicatrice; corrugated yellow layer $\frac{1}{32}$ filled with blood-clot of a light colour in centre and dark at circumference.

Remains of *Corpus Luteum* $\frac{1}{10}$, with thin yellow layer and containing trace of blood-clot.

Cyst $\frac{3}{4}$-inch diameter close to hylum of ovary; ruptured in removal of ovary.

Two traces of *Corpus Luteum.* Yellow layer thin and puckered.

Four or five traces of *Corpora Lutea.*

Four or five *follicles* $\frac{1}{8}$ to $\frac{1}{16}$ containing clear fluid.

Left Ovary.—Two *Follicles* $\frac{1}{4}$ containing clear fluid.

Follicle $\frac{1}{8}$ containing altered granular blood; lining membrane stained brown, but no trace of a yellow layer.

Remains of a *Corpus Luteum* $\frac{1}{16}$; walls yellow and slightly corrugated, no contents.

Corpus Luteum $\frac{1}{4}$ + $\frac{1}{16}$ corrugated; yellow layer $\frac{1}{32}$ and containing small blood-clot.

Two traces of *Corpora Lutea.*

Two *Corpora Alba* $\frac{1}{16}$.

Several *Follicles* $\frac{1}{16}$ to $\frac{1}{8}$.

II. Operation, Nov. 3, 1884. *A. M. L., æt.* 30. *Single. Persistent pain and excessive loss. Small myoma. Right ovary. Weight* 104 *grs.*

On the surface of the ovary a yellow scar, section through which

opened a *Corpus Luteum* $\frac{1}{6}$ inch diameter with a yellow layer $\frac{1}{20}$ thick and containing a dark red clot.

Two traces of *Corpora Lutea* $\frac{1}{20}$.

Two *Corpora Alba* $\frac{1}{20}$.

Five or six follicles $\frac{1}{8}$ to $\frac{1}{4}$ containing clear fluid stained yellow, and with thin membranous walls covered with minute blood-vessels. In one follicle an extravasation of blood in the walls, eight or nine follicles $\frac{1}{10}$ to $\frac{1}{20}$.

Left ovary weight 124 grs.

On removal of ovary a cyst burst on the anterior surface; cyst $\frac{1}{2}$ inch diameter contained an organised blood clot, pale on surface and dark in centre, and which weighed on removal 13 grs. Membrane lining cyst thin and transparent, irregularly stained, and injected with blood, but without any trace of yellow colour.

On posterior surface of ovary yellow scar, section through which showed a collapsed *Corpus Luteum* $\frac{1}{3}$ without contents, walls corrugated $\frac{1}{30}$ thick.

Corpus Luteum $\frac{1}{3}$ corrugated.

Yellow layer $\frac{1}{25}$ and containing thin blood clot.

Corpora Alba $\frac{1}{3} \times \frac{1}{10}$ with deeply corrugated white walls.

Corpora Alba $\frac{1}{9}$.

Three or four traces of *Corpora Lutea.*

Eight or nine follicles $\frac{1}{3}$ to $\frac{1}{10}$ containing clear fluid.

Two follicles $\frac{1}{3}$ and $\frac{1}{3}$ containing yellow fluid.

III. Operation for Myoma, Nov. 10, 1884. *E. N., æt.* 42. *Widow. Last cat. Nov.* 3.

Right Ovary.—Weight, 98 grs.

A *Cyst* $\frac{1}{4}$-inch diameter, containing clear fluid ruptured in removal of ovary.

A congested area on lower border of ovary with a central cicatrice with irregular edges stained with blood. An incision through this showed a *Corpus Luteum* nearly $\frac{1}{2}$-inch in diameter, with deeply corrugated pale fawn-coloured walls $\frac{1}{9}$-inch thick, containing a thin layer ($\frac{1}{40}$) of firmly-adherent pale organised blood-clot, except just below the cicatrice, where the clot was dark-red and $\frac{1}{20}$ thick.

Remains of *Corpus Luteum* $\frac{1}{4} \times \frac{1}{3}$; walls smooth and yellow, $\frac{1}{50}$ thick, and containing thin pale layer of blood-clot.

Traces of two *Corpora Lutea* near surface of ovary.

Corpora Alba ⅛-inch diameter near surface of ovary; walls $\frac{1}{30}$ thick.

No other distinct follicle or cyst to be seen.

Left Ovary.—Weight, 86 grains.

A *Cyst or follicle*, ½-inch diameter, with thin transparent wall, and containing clear fluid.

Follicle with white cartilaginous walls $\frac{1}{10}$-inch diameter.

Follicle ⅛ containing clear fluid.

Close to hylum of ovary a *Cyst*, ¼-inch diameter, with opaque white walls and containing clear fluid.

Corpus Luteum $\frac{4}{10} \times \frac{3}{10}$, with smooth thin yellow walls ($\frac{1}{60}$), and containing a thin layer of colourless clot with one red spot in it.

Two traces of *Corpora Lutea.*

Surface of ovary much puckered, and no other distinct follicles or cysts seen.

IV. Operation for Myoma, Nov. 12, 1884. *L. L., æt.* 35. *Last cat. Oct. 22 to 29.*

Right Ovary.—Weight, 55 grains.

Two cysts ruptured in removal of ovary, both containing clear fluid.

One of these Cysts, 1-inch in diameter, with marked development of capillary vessels in walls, and with blood extravasated in one place below lining membrane of cyst.

The other cyst, about ½-inch in diameter, and with a third cyst communicating with it by a small opening; the walls between these three cysts extremely thin.

A dark purplish spot showed on surface of ovary, section through which opened a *cavity*, ¼-inch diameter, containing a soft red adherent clot; there was no defined lining membrane to this cavity.

Two *similar cavities* without defined lining membranes—one $\frac{1}{10} \times \frac{1}{20}$, with a dark-red granular clot, and the other $\frac{1}{8} \times \frac{1}{10}$, with a pale organised clot.

Trace of *Corpus Luteum*, $\frac{1}{20}$.

Corpora Alba, $\frac{1}{10}$.

Remains of *Corpus Luteum* $\frac{1}{8} \times \frac{1}{20}$, with a distinct yellow layer and thin clot lying between collapsed walls.

Left Ovary.—Weight, 95 grains.

After large cyst emptied, 55 grains.

Cyst, ¾-inch diameter, containing thin red fluid (serum stained with blood).

Follicle, ¼-inch diameter, with opaque walls with a trace of yellow colour in them, and containing clear fluid.

Follicle, ¼-inch diameter; thin transparent walls and clear fluid.

Cyst, ⅛-inch diameter, with ill-defined walls and containing blood-stained fluid.

Follicle, ⅛-inch diameter, deep in substance of ovary with slightly corrugated white walls (*Corpora Alba*), and containing small dark organised clot.

Corpus Luteum below a superficial cicatrice, $\frac{1}{10}$-inch diameter; walls corrugated, pale fawn colour, $\frac{1}{30}$ thick, and containing remains of organised clot.

Follicle, $\frac{1}{10}$-inch diameter, with ill-defined walls containing blood-stained fluid and small clot.

Dark-red stain, apparently a trace of one of these old follicles.

V. Operation for Myoma, Nov. 17. *E. T., æt.* 38. *Married. Last cat. Oct.* 19 *to* 25. *Pain and excessive loss.*

Right Ovary.—Dense adhesions of tube and broad ligament to ovary too firm to break down.

Cyst, size of Tangerine orange, in ovary filled with dark blood-clot. Clot in organised layers and those nearest to wall pale and adherent; when stripped off, wall showed a thin transparent lining membrane; walls soft and torn with slight touch except at one part where the ovarian stroma was stretched over the cyst. A few small *Graafian follicles*, $\frac{1}{18}$ to $\frac{1}{30}$, in this tissue. The rest of the ovary disorganised and inseparable from adhesions. No follicle of any kind seen in it.

Left Ovary.—75 grains.

Follicle, ½ inch diameter, thin transparent walls containing clear fluid.

Follicle, ¼-inch diameter, separated from first follicle by soft wall injected with capillaries.

Follicle, ⅛; opaque white walls, $\frac{1}{30}$. Contents, clear fluid. Below this one a *Corpus Luteum*, $\frac{1}{10}$; corrugated yellow walls, $\frac{1}{30}$ thick, and containing thin layer of blood-clot.

Corpus Luteum ¼ × ⅛; wall deep orange-brown colour; corrugation barely perceptible; blood-clot $\frac{1}{20}$ thick, of a dark-red brown, shading off into orange, wall.

Follicle ¼; lining membrane transparent and but faintly defined. Contents, clear fluid.

Follicle ¼; close to hylum; clear fluid.

Follicle $\frac{1}{10}$, with smooth white opaque walls and clear fluid.

No other traces of follicles.

VI. Operation for Myoma, Nov. 25, 1884. A. A., æt. 42. Married. Last cat. Nov. 4 to 14. Excessive loss for years.

Right Ovary.—Weight, 78 grains.

Surface of ovary hard and yellowish white in colour; deeply corrugated (sulci, $\frac{1}{10}$ deep, reminding one of convolutions of brain). Scattered all over surface of ovary, transparent vesicles, two of which were ⅛-inch diameter, the rest minute in size; when vesicles were opened a cup-like depression left with a smooth shining wall; depression in large vesicles $\frac{1}{12}$ deep.

Corrugated cortex of ovary cartilaginous in section, opaque white in colour, and about $\frac{1}{10}$ thick.

Close to hylum a thin walled cyst, size of cherry, containing clear fluid and attached by a pedicle $\frac{3}{10}$ long.

Corpora Alba ¼ deep in substance of ovary; corrugated white walls $\frac{1}{10}$ thick.

Four or five *follicles* $\frac{1}{10}$ to ⅛ containing clear fluid, and with smooth transparent walls, except that in one walls slightly thickened.

Corpus Album, $\frac{1}{10}$; walls, $\frac{1}{50}$ thick.

No trace of any *Corpus Luteum.*

Left Ovary.—Weight, 116 grains.

Anterior surface of ovary smooth and glistening. Posterior surface hard and corrugated like the right ovary.

A thin-walled cyst containing clear fluid, size of cherry, burst in removal of ovary. Attached close to hylum of ovary was a double-pedicled cyst. Scattered over posterior surface of ovary, minute transparent vesicles like those on right ovary.

1. Cyst, ½ inch diameter, containing clear fluid and with deeply-injected, smooth, transparent walls.

Two *follicles*, ⅓, close to hylum of ovary.

Two *follicles* $\frac{1}{12}$.

No trace of any *Corpus Luteum* or *Corpora Alba*. Fibrous tissue increased about hylum of ovary.

VII. Operation for Chronic Ovaritis, Nov. 29, 1884. *M.B., æt.* 20. *Single. Last cat. Nov.* 17. *Typhoid fever two years ago. Intense menstrual pain ever since.*

Right Ovary.—Weight, 82 grains.

Outer half of surface of ovary deeply corrugated and indurated. Inner, smooth and but slightly marked with cicatrices. Section showed outer half to be cartilaginous (like right ovary No. 6), the rest of the ovary normal in appearance.

Corpus Luteum, $\frac{1}{3}$-inch diameter, irregular in shape; outer half of *Corpus Luteum* had yellow layer, $\frac{1}{30}$ thick, corrugated. Inner half had no distinct lining membrane, but contained a dark clot and serum.

Eight or nine *follicles*, from $\frac{1}{8}$ to $\frac{1}{4}$-inch, containing clear fluid in normal part of ovary; in changed part traces of two *Corpora Lutea* $\frac{1}{10}$-inch diameter; one trace of *Corpus Luteum*, $\frac{1}{4} \times \frac{1}{10}$; walls corrugated, $\frac{1}{30}$ thick on one side, a thin line on the other, which was depressed by follicle $\frac{1}{10}$-inch diameter, with transparent lining membrane and containing clear fluid.

Section through yellow stain on surface of ovary showed remains of *Corpus Luteum* with yellow layer $\frac{1}{40}$-inch thick and containing remains of reddish brown organised clot $\frac{1}{30}$-inch thick. *Corpus Luteum* $\frac{1}{8} \times \frac{1}{10}$; yellow layer deeply corrugated, $\frac{1}{30}$-inch thick.

Left Ovary.—Weight, 68 grains.

Commencing corrugation and cartilaginous change close to hylum of ovary at its outer border. On the posterior and inner surface a congested patch $\frac{3}{4} \times \frac{1}{2}$-inch, with central dark cicatricial spot.

Section through this showed *Corpus Luteum* $\frac{1}{2}$-inch $\times \frac{1}{3}$; yellow layer at point where it had burst—a mere line—gradually thickening and becoming deeply corrugated on the inner surface, containing bright dark-red clot; some congestion of ovary round the *Corpus Luteum*.

Follicles, six or seven, $\frac{1}{8}$ to $\frac{1}{8}$; clear fluid; transparent lining membrane; one trace *Corpora Alba*, $\frac{1}{15}$-inch diameter; *follicle* $\frac{1}{8}$-inch diameter, with clear fluid; walls congested and slightly stained yellow; one trace of *Corpus Luteum* $\frac{1}{30}$.

VIII. Operation. Dec. 2. E. T., æt. 24. Single. Last cat. ended Nov. 20. Intense menstrual pain at irregular periods. Uterus infantile and hardly developed.

Right Ovary.—Weight 105 grains; size $1\frac{1}{4} + \frac{3}{4} \times \frac{3}{5}$. Surface of ovary smooth and glistening posteriorly; opaque and yellow anteriorly.

Ovary full of *follicles* varying in size from $\frac{1}{3}$ to $\frac{1}{8}$-inch diameter; divided from one another by thin transparent walls; a few had thin transparent lining membranes easily detached, and some were stained by effusions of blood in their walls; weight of ovary when fluid had escaped from these follicles, 68 grains; in the only part of ovary in which some ovarian stroma was left there were the remains of a *Corpus Luteum*, about $\frac{1}{9}$-inch diameter, with distinct corrugated yellow layer.

Left Ovary.—Weight, 138 grains; size, $1\frac{1}{5} \times \frac{4}{5} \times \frac{3}{5}$-inch; surface like right ovary, but near posterior border a congested patch, $\frac{1}{4}$-inch in diameter, section through which showed *follicle* $\frac{1}{3}$-inch in diameter containing blood-clot and with transparent blood-stained lining membrane; ovary on section had a centre of smooth fibrous tissue surrounded by cysts of rather smaller size than those in right ovary, but more of them had blood-stained, easily detached, transparent lining membranes. Remains of *Corpus Luteum*, $\frac{1}{2} \times \frac{1}{20}$-inch. Collapsed thin walls, $\frac{1}{40}$, and no trace of clot. Trace of *Corpus Luteum* $\frac{1}{10} \times \frac{1}{20}$. *Corpus Luteum*, $\frac{1}{6}$-inch diameter; corrugated yellow layer, $\frac{1}{40}$ thick, and containing organised dark clot.

Follicles in left ovary very numerous and almost all in outer layer of ovary; weight of ovary when fluid had escaped, 62 grains.

IX. Operation, Dec. 19. L. S., æt., 23. Single. Last cat. Nov. 27 to 30. Menstruation scanty and painful; uterus infantile—"a mere thread."

Right Ovary.—Weight 153 grains; size $1\frac{2}{5} \times \frac{6}{10} \times \frac{5}{6}$.

The surface of the ovary smooth and glistening; on its free border a cicatrice with a small red centre.

(1) Section through this red cicatrice showed *Corpus Luteum*, $\frac{1}{4} \times \frac{3}{10}$, a thin corrugated yellow layer, containing a dark red clot with a pale centre.

Remains of five *Corpora Lutea*, varying in size from $\frac{1}{2}$ to $\frac{1}{10}$ close to surface of ovary; yellow layer well marked in all, and two containing traces of blood-clot.

Two *Corpora Alba* $\frac{1}{4}$ diameter.

One *follicle* $\frac{1}{8}$, and one $\frac{1}{5}$, containing clear fluid close to surface of ovary.

One *follicle*, $\frac{1}{5}$ deep in tissue of ovary, containing clear fluid.

(2) Two *Corpora Alba*, $\frac{1}{20}$ and $\frac{1}{10}$ deep in tissue of ovary.

Follicles, four or five, $\frac{1}{10}$ to $\frac{1}{4}$, with clear fluid.

(3) *Follicles*, three or four, $\frac{1}{5}$ to $\frac{1}{10}$, clear fluid.

Two *follicles*, $\frac{1}{5}$ and $\frac{1}{8}$, with transparent lining membranes injected with blood, the largest containing thin blood-clot.

(4) *Follicles*, three or four, $\frac{1}{20}$ to $\frac{1}{9}$, with clear fluid.

(5) *Follicles*, five or six, $\frac{1}{10}$ to $\frac{1}{5}$, with clear fluid. Trace of one *Corpora Alba.*

(6) Trace of *Corpus Luteum.*

Follicle, $\frac{1}{6}$, with transparent injected membrane and clear fluid.

Follicles, four or five, $\frac{1}{10}$ to $\frac{1}{8}$, with clear fluid.

(7) Trace of *Corpus Luteum.*

Follicles, four or five, $\frac{1}{10}$ to $\frac{1}{8}$, with clear fluid.

Left Ovary.—Weight, 173 grains; size, $1\frac{6}{10} \times \frac{9}{10} \times \frac{6}{10}$.

Surface smooth and glistening; the outer end congested and with recent cicatrice.

(1) Section through the congested portion showed *Corpus Luteum*, $\frac{6}{10} \times \frac{7}{10}$, with deeply corrugated walls varying in thickness, and containing firm, dark-red clot, paler in centre.

Corpora Alba, $\frac{1}{5}$, containing remains of blood-clot. Traces of two *Corpora Alba.*

Three *follicles*, $\frac{1}{5}$, close to the surface with clear fluid.

Three *follicles*, $\frac{1}{10}$, with clear fluid.

(2) Remains of *Corpus Luteum*, $\frac{1}{10}$ by $\frac{1}{40}$.

(3) Four *Corpora Alba*, $\frac{1}{10}$, $\frac{1}{12}$, $\frac{1}{5}$, $\frac{1}{8}$.

(4) *Corpus Luteum*, $\frac{1}{8} \times \frac{1}{10}$, with yellow layer and trace of blood-clot.

Numerous *Follicles* with clear fluid, similar in size and appearance to those of right ovary.

X. Operation for Chronic Ovaritis, Jan. 7, 1885. *A. B., æt.* 31. *Single. Last cat. about Dec.* 20.

Right Ovary.—Weight, 77 grains; length, $1\frac{1}{10} \times \frac{8}{10} \times \frac{6}{10}$.

Outer end of ovary congested, and at this point was ruptured in

removal of ovary, allowing the contents of a recent follicle to escape. The rest of the surface of ovary smooth and of an opaque yellowish white colour, with minute pearly spots. At one place a slightly puckered yellowish scar.

(1) Section through the congested end of ovary showed it to be occupied by a *follicle*, $\frac{1}{2}$-inch diameter; ill-defined walls of a fawn colour, very faintly corrugated and with numerous red points. Some force was needed to separate these walls from the ovary. The membrane covering these walls and that of the cavity left on their removal were smooth and glistening, but covered with minute capillary vessels injected with bright blood, which was in many places effused.

Five *follicles*, about $\frac{1}{8}$, with clear contents. Traces of two *Corpora Lutea*, $\frac{1}{10}$-inch diameter.

(2) Section through puckered scar on surface of ovary showed remains of *Corpus Luteum*, $\frac{1}{8} \times \frac{1}{4}$; walls pale yellow, $\frac{1}{20}$ thick, corrugation, but faintly marked; thin red clot in cavity.

(3) *Corpora Alba*, $\frac{1}{12}$.

(4) *Follicles*, three or four, $\frac{1}{4}$ to $\frac{1}{10}$, with clear fluid; walls transparent and slightly injected.

(5) Trace of *Corpus Luteum*, $\frac{1}{30}$.

Follicles, two or three, $\frac{1}{8}$ to $\frac{1}{10}$, with clear fluid and injected transparent membranes, close to hylum.

Follicle, $\frac{1}{4}$-inch diameter; walls transparent and injected, and in one part slightly yellow and opaque; near hylum, attached by a short pedicle, a cartilaginous nodule, $\frac{1}{10} \times \frac{1}{8}$.

Left Ovary.—Weight, 58 grains; size, $1 \times \frac{7}{10} \times \frac{4}{10}$ inch.

Surface of ovary smooth; at outer border a recent linear opening (possibly a tear on removal of ovary) slight congestion of ovary around this. On outer end circular depression, $\frac{1}{3}$-inch across; colour purplish, with a pink margin and linear tear into tissue of ovary.

(1) Section of ovary through this depression showed that the tear led into a collapsed cavity containing a small red clot.

Inner or deeper side of cavity formed by a thin, smooth, pale-yellow wall, but the wall of cyst elsewhere transparent and slightly injected; clot slightly adherent to yellow layer was thin and membranous.

Tear at opposite end of ovary led into a *follicle*, about $\frac{1}{6}$-inch diameter, with perfectly transparent walls, containing a little clear fluid.

Below this remains of *Corpus Luteum*, $\frac{1}{5} \times \frac{1}{10}$, with yellow layer, $\frac{1}{30}$ thick, and containing dark clot.

Three *follicles*, $\frac{1}{8}$ to $\frac{1}{4}$, containing clear fluid.

In the rest of the ovary numerous transparent *follicles*, $\frac{1}{8}$ to $\frac{1}{8}$, but no trace of any *Corpora Alba.*

XI. Operation for Chronic Ovaritis, Jan. 26th, 1885. *E. H., æt.* 20. *Single. Last cat. Jan.* 15 *to* 22. *Last July left ovary removed by Dr. Malins; pain and profuse loss have continued since.*

Right Ovary.—Weight, 108 grains; size $\frac{1}{4} \times \frac{8}{10} \times \frac{6}{10}$.

Surface of ovary smooth; on the lower border transparent follicles $\frac{3}{10}$, protruding with a few capillary vessels spreading over its walls. On the inner and anterior surface a linear cicatrice slightly stained with blood. Below protruding cyst remains of *Corpus Luteum*, $\frac{1}{3} \times \frac{1}{5}$; walls slightly corrugated; pale opaque yellow, $\frac{1}{30}$ thick; no contents.

Trace of *Corpus Luteum*, $\frac{1}{8} \times \frac{1}{15}$. Five *follicles*, $\frac{1}{8}$ to $\frac{1}{4}$, containing clear fluid.

Section through the linear cicatrice showed collapsed *follicle* lined with a slightly congested transparent membrane, easily stripped from the walls; walls of follicle somewhat turgid, but no trace of any effusion of blood in cyst.

Follicle, with walls slightly infiltrated with dark blood; lining membrane easily stripped away, was transparent though congested; about $\frac{1}{30}$ thick.

Numerous *follicles*, from $\frac{1}{20}$ to $\frac{1}{5}$, scattered throughout ovary containing clear fluid; no trace of any *Corpora Alba.*

Some increase of connective tissue of ovary.

XII. Operation, Jan. 26, 1885. *J. N., æt.* 42. *Married. Last cat. ended Jan.* 10. *Myoma with profuse loss.*

Right Ovary.—Weight, 107 grains; size $1\frac{3}{10} \times \frac{9}{10} \times \frac{1}{2}$.

Surface of ovary puckered, sulci $\frac{1}{8}$ deep. On lower border a loose baglike congested protrusion, but no distinct opening into the cavity could be distinguished.

(1) Section through this showed a *collapsed cavity*, size of a small cherry, containing a small quantity of pus-like fluid. Lining membrane thin and glistening, easily stripped off walls; membrane in-

tensely congested, with large capillary vessels developed all over it; but slight congestion of walls of cavity.

(2) Two *follicles*, $\frac{1}{8}$ and $\frac{1}{6}$; lining membranes transparent and slightly congested, could not be easily stripped off walls of follicles. Contents, clear fluid.

(3) Two *follicles*, $\frac{1}{3}$ and $\frac{1}{4}$, with clear fluid and slightly congested lining membranes, easily stripped off walls.

(4) *Follicle*, $\frac{1}{4}$, clear fluid, with slightly congested lining membrane, which could not be easily stripped.

(5) *An irregular cavity*, size of a large pea, with slightly opaque, smooth, white walls, containing clear fluid.

Near surface of ovary, *follicle*, $\frac{1}{3}$, containing clear fluid.

Throughout ovary no trace of any *Corpus Luteum* or *Corpora Alba*.

Some increase of fibrous tissue.

Left Ovary.—Weight, 80 grains; size not taken.

Outer half of ovary puckered with deep sulci. Inner, smooth, and glistening.

A *cyst*, size of a large cherry, containing clear fluid, with smooth walls; bulging into this cyst were two smaller ones, $\frac{1}{4}$ and $\frac{1}{10}$-inch diameter.

Two or three *follicles*, $\frac{1}{4}$ to $\frac{1}{3}$.

No trace of any *Corpus Luteum* or *Corpora Alba*.

Two *follicles*, $\frac{1}{4}$ and $\frac{1}{5}$, with slightly injected transparent lining membranes; clear fluid.

XIII. Operation, Feb. 25. A. S., æt. 25. Married. Case of gonorrhœal inflammation for five or six years.

Left Ovary.—Weight, 53 grains.

Ovary torn in removal. Strong fibrous adhesions between broad ligament and ovary, too strong to be broken down.

Anterior surface of ovary irregular, corrugated, and cartilaginous in appearance.

Cartilaginous cortex on section was about $\frac{1}{20}$ thick.

(1) *Cavity*, $\frac{1}{3}$-inch in diameter, with thick, brown, granular contents.

(2) *Corpus Luteum*, with bright orange walls containing small dark-red blood-clot.

(3) *Corpus Luteum*, with thin layer of ovarian tissue spread over

it, protruding from surface of ovary, the size of a small pea; walls, bright orange, $\frac{1}{10}$ thick, soft and easily stripped away, leaving a smooth glistening surface to the cavity. Contents, soft blood-clot.

(4) *Corpora Alba*, $\frac{1}{10}$, with trace of brown altered blood; no normal ovarian tissue or follicles.

In removing ovary a *cyst* ruptured, containing brown altered blood like the first one mentioned.

Right Ovary.—Weight, 23 grains.

Had shrunk into an irregular, corrugated, cartilaginous body $\frac{3}{4} \times \frac{1}{2} \times \frac{1}{4}$. In this there was no trace of any ovarian tissue, except the puckered and thickened cortex of the ovary.

XIV. Operation for Chronic Ovaritis, March 27. J. R., æt. 26. Married. Last cat. began March 1. Menstruation profuse, lasting seven or eight days.

Right Ovary.—Weight, 167 grains; size, $1\frac{1}{3} \times 1\frac{1}{8} \times \frac{3}{8}$.

Surface generally smooth, but in two or three places roughened and thickened.

On its free border an irregular puckered scar.

(1) Section through this scar showed a *Corpora Alba*, $\frac{1}{4} \times \frac{3}{10}$, with thin, corrugated, opaque, white walls, except that at one side, where a second follicle pressed it, it was smooth and yellow. Contained a small, firmly-organised clot, inseparable from the walls of the follicle.

Eight *follicles*, $\frac{1}{10}$ to $\frac{4}{10}$, containing clear fluid; lining membranes thin and transparent, in two cases somewhat injected.

(2) Remains of three *Corpora Alba*, $\frac{1}{8}$ to $\frac{1}{12}$.

Three *follicles* containing clear fluid; thin transparent lining membranes.

(3) Three *follicles* with clear fluid; transparent lining membranes.

(4) Remains of two *Corpora Alba*, one $\frac{1}{10}$, the other $\frac{2}{5} \times \frac{1}{10}$.

Remains of two *Corpora Lutea*, opaque yellow walls, thin and slightly corrugated.

In the larger, remains of clot; in the smaller, slight red staining.

Four or five *follicles* with clear fluid.

(5) Five or six *follicles* with clear fluid.

Left Ovary.—Weight, 145 grains; size $1\frac{1}{4} \times 1\frac{1}{10} \times \frac{2}{5}$.

Surface less rough and thickened than in right ovary. On the free border a yellow-red patch, $\frac{6}{10} \times \frac{3}{10}$ in size, with capillary

vessels coursing all over it, and a large irregular opening in the centre. A sharp line of division between the congested portion and the pearly white ovarian tissue. The capillary vessels unusually developed over the surface of ovary. A second yellow patch on surface of ovary with an opening into a cavity below it.

(1) Section through the large patch opened a large *Corpus Luteum*, $\frac{3}{4} \times \frac{1}{2}$, with deeply corrugated walls of varying thickness of a yellow fawn colour and containing a soft, bright-red clot, which could not be torn away from the walls without tearing them in some places.

Nine *follicles* with clear fluid and transparent walls, two of these nine having the walls congested.

(2) Section through the second patch showed remains of *Corpus Luteum*, $\frac{1}{10} \times \frac{1}{8}$, with thick, opaque, yellow walls, very slightly corrugated and containing a thin red clot which could be separated from the walls.

(3) Trace of *Corpus Luteum*, $\frac{1}{15}$.

Six or seven *follicles* with clear fluid; walls somewhat injected.

(4) Two or three *follicles* with clear fluid and injected walls.

XV. Operation, March 30. *H. H., æt.* 28. *Married. Last cat. March* 11 *to* 18. *Small fibroid.*

Right Ovary.—Weight, 150 grains; size $1\frac{1}{2} \times \frac{3}{4} \times \frac{3}{8}$.

Shape irregular; surface smooth, marked by merely superficial cicatrices.

(1) Section showed the whole ovarian tissue œdematous and congested with numerous *follicles*, varying in size from $\frac{1}{10}$ to $\frac{1}{5}$, containing clear fluid and lined with a thin transparent membrane, easily stripped from the walls, but with capillary vessels greatly developed in them.

2 *Corpora Alba*, one $\frac{1}{3}$ and one $\frac{1}{10}$.

(2) Opaque, white, corrugated body, walls $\frac{1}{10}$ thick, easily separated from cavity, which was lined with a white, semi-transparent membrane.

Corpora Alba, $\frac{1}{5}$ in diameter.

Traces of *Corpus Luteum*, $\frac{1}{15}$.

Numerous *follicles* with clear fluid.

(3) *Follicles* with clear fluid.

(4) One trace of *Corpus Luteum*, $\frac{1}{10}$.

Numerous *follicles* with clear fluid.

(5) Trace of *Corpora Alba*, $\frac{1}{15}$.

Orange stain, $\frac{1}{20}$ diameter.

Follicle, $\frac{1}{8}$, with transparent walls stained brown, and containing remains of small, dark-brown clot. Numerous *follicles* with clear fluid.

Left Ovary.—Weight, 234 grains; size, $1\frac{3}{4} \times 1 \times \frac{3}{8}$.

Surface smooth, somewhat congested.

(1) Section showed tissue congested and œdematous; at one extremity a congested *Corpus Luteum* $\frac{1}{2}$-inch in diameter, with a thin, corrugated, yellow layer, $\frac{1}{20}$ thick, and cavity filled with soft, dark-red clot. Ovarian tissue congested around border of *Corpus Luteum* for about $\frac{1}{10}$ of an inch.

(2) *Corpus Luteum*, $\frac{3}{10} \times \frac{1}{7}$, with corrugated walls, $\frac{1}{20}$ thick, somewhat firmer and more opaque than in the more recent yellow *Corpora Lutea*, and containing a bright red clot.

One *Corpora Alba*, $\frac{1}{8}$, containing a slightly translucent, white fibrous mas (œdematous); a second *Corpora Alba* containing a hard, corrugated, white nodule, like the one mentioned in the right ovary.

Corpora Alba, $\frac{1}{8} \times \frac{1}{20}$, containing a thin, white translucent mass.

(3) Trace of *Corpora Alba*.

The rest of the ovary contained numerous follicles with clear fluid and somewhat congested walls, but no other *Corpus Luteum*, and but one small *Corpora Alba* with translucent contents.

XVI. Operation for Double Pyosalpinx, April 10, 1885. *E. W., æt.* 29. *Married. Last cat. March* 22 *to April* 5. *Scanty, painful.*

Right Ovary.—Tube and broad ligament bound by dense adhesions to the ovary, the fimbriated extremity of the tube firmly adherent to ovary, but orifice still patent.

Surface of ovary smooth, except where roughened by adhesions. On its outer border a purplish red patch; in its centre an opening $\frac{1}{8}$-inch in diameter, from which protruded a dark-red clot.

(1) Section through this opened a *cavity* $\frac{1}{2} \times \frac{3}{10}$ in diameter, with no defined walls; the tissue round infiltrated and stained with blood. A soft, semi-transparent, membranous cyst, with numerous capillaries in its walls, could be easily separated from this cavity. This *cyst* was collapsed and contained but a small quantity of soft

red clot, but the cyst was in many places deeply stained with blood, and it was part of this which protruded on the surface of the ovary. Parenchyma of the ovary was changed into dense fibrous tissue. Below the part of the ovary, to which the fimbriated extremity of the tube adhered, were two *follicles*, $\frac{1}{8}$ in diameter, one containing clear fluid, the other stained with blood.

Two *follicles*, about $\frac{1}{10}$, with clear fluid.

(2) A collapsed *follicle*, $\frac{1}{8}$, with defined fibrous walls, lined with a thin, transparent, congested membrane.

Follicle, $\frac{1}{8}$, with slightly stained yellow walls and congested transparent membrane.

Follicle, $\frac{1}{8}$, with rigid semi-transparent walls, $\frac{1}{30}$ thick; clear fluid.

Two *follicles*, $\frac{1}{10}$ in size, with rigid semi-transparent walls $\frac{1}{30}$ thick. Transparent congested membranes lined both these follicles.

(3) *Follicle*, $\frac{1}{8}$, with clear fluid; walls whitish and well defined.

(4) Three *follicles* with thin, congested, transparent walls, containing clear fluid.

Left Ovary.—The tube and broad ligament firmly adherent to the ovary, the fimbriated extremity of the tube firmly bound down and opening of tube occluded. Surface of ovary smooth except over the lower border, which was roughened and nodular. On the inner end a smooth purplish patch.

(1) Section through this showed a cavity, $\frac{1}{3}$-inch, containing clear fluid and lined with thin transparent and very slightly congested membrane. Bulging into this cavity was a *follicle*, $\frac{1}{8}$, with clear fluid.

At the free border of the ovary a *Corpus Luteum*, $\frac{1}{3} \times \frac{1}{6}$, with slightly corrugated yellow walls, $\frac{1}{30}$, thick, and containing small, dark-red clot.

(2) Trace of *Corpus Luteum*, $\frac{1}{8} \times \frac{1}{20}$.

Seven *follicles*, $\frac{1}{7}$ to $\frac{1}{10}$, with clear fluid; in most cases rigid semi-transparent walls; all of these and the yellow follicles were close to the surface of the ovary.

Below the outer yellow follicle was a *Corpora Alba*, $\frac{1}{10} \times \frac{1}{12}$.

Corpus Luteum, $\frac{1}{3} \times \frac{1}{7}$, with thin, corrugated, yellow walls containing dark-red clot.

Trace of *Corpus Luteum*, $\frac{1}{8} \times \frac{1}{9}$.

A *follicle*, $\frac{1}{8}$, with clear fluid.

Three *follicles*, $\frac{1}{8}$ to $\frac{1}{7}$, with rigid walls, thin and slightly congested lining membranes; clear fluid contents.

(3) Trace of *Corpora Alba*, $\frac{1}{8} \times \frac{1}{12}$.

Three *follicles*, $\frac{1}{6}$ to $\frac{1}{8}$, with rigid walls and thin, slightly congested lining membranes.

(4) *Corpus Luteum*, $\frac{1}{4} \times \frac{1}{8}$, with thin, slightly corrugated, yellow walls, containing a thin red clot.

Trace of *Corpus Luteum*.

(5) Three or four *follicles*, $\frac{1}{8}$ to $\frac{1}{12}$, with rigid walls and thin, slightly congested lining membranes.

XVII. Operation for Double Pyosalpinx. April 10, 1885. *S. D. æt.* 33. *Married. Last cat. March* 29 *to April* 4. *Loss profuse, painful.*

Right Ovary.—Tube adherent to broad ligament and ovary. On the posterior surface of broad ligament, and extending over part of the ovary, the serous membrane was raised and distended with fluid, forming a flaccid, irregular cyst, containing about a drachm of turbid yellow fluid.

The surface of the ovary, forming part of floor of cyst, smooth and shining, except in two places, where it was eroded, and had projecting cartilaginous nodules.

The rest of the surface of the ovary slightly roughened with adhesions, otherwise smooth and glistening, with numerous transparent follicles shining through.

Right Ovary.—Weight 120 grains; size, $1 \times \frac{3}{4} \times \frac{1}{2}$.

(1) Four *follicles*, $\frac{1}{4}$ to $\frac{3}{8}$ in size, filled with clear fluid and with thin transparent slightly congested walls.

Remains of *Corpus Luteum*, $\frac{1}{8}$, with thin, slightly corrugated, orange walls, containing a dark, greenish-brown clot.

Close to hylum of ovary three *Corpora Alba*, $\frac{1}{8} \times \frac{1}{6}$, $\frac{1}{8} \times \frac{1}{8}$, and $\frac{1}{8}$.

A trace of two *Corpora Alba*.

Trace of *Corpus Luteum* of a deep, yellow-brown colour.

(2) *Follicle*, $\frac{1}{3}$, containing clear fluid and walls in one place stained yellow.

Two or three *follicles*, $\frac{1}{10}$ to $\frac{1}{8}$, with clear fluid.

(3) Four or five *follicles*, $\frac{1}{10} \times \frac{1}{4}$, with clear fluid.

(4) Six *Corpora Alba*; size $\frac{1}{8}$ to $\frac{1}{30}$; in two cases a corrugated nodule could be shelled out, leaving a smooth white cavity.

Left Ovary.—Tube and broad ligament bound to ovary in an

inseparable mass, the fimbriated extremity of the tube patent, but so bound down that no movement was possible; omentum adherent to ovary; surface of ovary covered with ragged adhesions, otherwise perfectly smooth.

(1) Section showed a cavity, $\frac{8}{10}$ in diameter, containing blood-stained fluid. This cavity occupied the centre of the ovary, the ovarian tissue being spread over it to the thickness of $\frac{1}{8}$ of an inch, except at the hylum, where it was about $\frac{1}{15}$. The walls of the cavity were smooth, transparent, and glistening, except at the part towards the lower border of the ovary, where there was a firm organised clot, $\frac{1}{2} + \frac{3}{10} \times \frac{1}{10}$; the walls about the clot were slightly yellow and opaque, but quite thin, and with no appearance of corrugation.

Two *follicles*, $\frac{1}{8}$, with clear fluid, protruding under the walls of the cyst.

(2) Two *Corpora Alba.*

Numerous *follicles* containing clear fluid.

(3) Two or three small *follicles* with clear fluid.

(4) *Corpora Alba*, $\frac{1}{6} \times \frac{1}{10}$.

(5) One or two *follicles* with clear fluid.

(6) One or two *follicles* with clear fluid.

XVIII. Operation for Myoma, March 20, 1885. *M. J. T., æt.* 50. *Married. Last cat. March* 18 (*specimen preserved in spirit*).

Surface of both ovaries deeply corrugated. No appearance on surface of ovary of any recent ruptured cyst.

(1) *Follicle*, with coagulated white clot, part of the wall stained with blood.

(2) Deep in tissue of ovary, *Corpus Luteum*, $\frac{1}{3} \times \frac{1}{8}$; walls $\frac{1}{20}$ thick; pale red clot filling cavity.

(3) *Corpus Luteum*, $\frac{1}{4} \times \frac{1}{6}$; corrugation but slightly marked; walls $\frac{1}{20}$ thick; containing a dark red clot.

Left Ovary.—Red projection size of small pea on lower border.

(1) Section through this projection showed it to be a follicle with thin walls, stained red, containing a dark red clot.

Follicle, with thin membranous walls and white clot (coagulated serum). Below this, *Corpus Luteum* $\frac{1}{2} \times \frac{1}{4}$; corrugated yellow walls, $\frac{1}{10}$ thick, a pale red clot, filling the whole cavity.

Remains of three *Corpora Alba.*

Two *follicles* with clear fluid.

(2) Traces of three *Corpora Lutea* and of two *Corpora Alba.*

(3) *Follicle,* containing red clot but no defined walls.

Trace of two *Corpora Lutea.*

Two *follicles* with clear fluid.

XIX. Operation, April 13, 1885. *E. B., æt.* 25. *Single. Retroverted and adherent uterus; intense pain. Last cat. March* 21 *to* 25.

Right Ovary.—Weight, 156 grains; size $1\frac{1}{2} \times 1 \times \frac{1}{2}$.

Surface of ovary smooth, with numerous follicles showing through. At lower border a congested patch of a yellow colour and deep red in centre.

(1) Section through this showed a *Corpus Luteum,* $\frac{1}{2}$, with bright yellow corrugated walls, and filled with a firm dark red clot. Close to hylum of ovary, *Corpus Luteum,* $\frac{1}{8}$, with thin yellow walls, with but slight trace of corrugation, and filled with dark clot commencing to break down into granular matter. Trace of *Corpus Luteum.*

Close to hylum of ovary trace of *Corpus Luteum.*

Near surface of ovary two *Corpora Alba,* $\frac{1}{6}$ and $\frac{1}{10}$; corrugated walls less cartilaginous than usual.

(2) *Corpora Alba,* $\frac{1}{8}$.

Two or three *follicles* with clear fluid, $\frac{1}{8}$ to $\frac{1}{10}$.

(3) Five or six *follicles,* $\frac{1}{8}$ to $\frac{1}{20}$, with clear fluid. Trace of two *Corpora Alba.*

(4) Five or six *follicles,* $\frac{1}{8}$ to $\frac{1}{2}$, with clear fluid.

(5) Three or four *follicles,* $\frac{1}{8}$ to $\frac{1}{2}$, with clear fluid.

(6) Trace of two *Corpora Lutea.* Corrugation still marked; and in one thin red line in centre (remains of blood-clot).

Two *follicles,* $\frac{1}{8}$, with clear fluid and deeply congested thin transparent lining membranes; remains of two *Corpora Alba.*

(7) Four *follicles,* $\frac{1}{6}$ to $\frac{1}{20}$, with clear fluid.

Left Ovary.—Weight, 95 grains; size, $1\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$.

Surface of ovary smooth with transparent *follicles* shining through.

(1) *Corpus Luteum,* $\frac{1}{8} \times \frac{1}{8}$, with thin yellow walls but slightly corrugated, and containing a small blood-clot which appeared almost absorbed and was red only at one point.

Two remains of *Corpora Alba,* $\frac{1}{6}$ and $\frac{1}{8} \times \frac{1}{8}$.

A dark stain, apparently owing to effusion of blood in the tissue of the ovary.

Numerous *follicles*, $\frac{1}{8}$ to $\frac{1}{10}$, with clear fluid. The largest with congested, thin, transparent lining membranes.

(2) *Corpora Alba*, $\frac{1}{4} \times \frac{1}{8}$, with corrugated walls; the outer half thin and stained with blood. Fluid blood or serum escaped when it was divided.

Two or three *follicles* with clear fluid.

(3) Four or five *follicles* with clear fluid, $\frac{1}{8}$ to $\frac{1}{10}$; one with deeply congested lining membrane.

(4) Five or six *follicles* with clear fluid, one with deeply congested walls.

Follicle, $\frac{1}{8}$, with clear fluid, and transparent walls $\frac{1}{40}$ thick and with blood effused into it.

(5) Five or six *follicles*, $\frac{1}{8}$ to $\frac{1}{10}$, with clear fluid; tissue of ovary somewhat congested, with well-marked capillaries developed in it.

XX. Operation for Myoma, April 14, 1885. *M. W., æt.* 34. *Single. Last cat. March* 30 *to April. Loss profuse and painful.*

Right Ovary.—Weight, 103 grains; size, $1\frac{1}{4} \times \frac{3}{4} \times \frac{1}{2}$.

Surface of ovary corrugated. One sulci $\frac{1}{8}$ of an inch deep extended across ovary. Inner half of surface of ovary cartilaginous.

(1) Section showed the cortex of inner half of ovary, $\frac{1}{20}$ thick, dense and white of texture, with white fibrous bands extending into stroma of ovary. Numerous capillary vessels developed in stroma.

Remains of *Corpus Luteum*, $\frac{1}{8} \times \frac{1}{8}$, with corrugated yellow layer $\frac{1}{20}$ thick.

Remains of two *Corpora Alba*, $\frac{1}{10}$ and $\frac{1}{8}$.

Follicle with thin, brownish, semi-transparent walls.

Four *follicles*, $\frac{1}{20}$ to $\frac{1}{8}$, with clear fluid.

(2) Trace of *Corpus Luteum.*

Three or four *follicles*, $\frac{1}{10}$ to $\frac{1}{8}$, with clear fluid.

(3) *Follicle*, $\frac{1}{8}$, with clear, transparent lining membranes containing blood-stained serum. Three or four *follicles*, $\frac{1}{10}$ to $\frac{1}{8}$, with clear fluid.

(4) Trace of *Corpus Luteum*, $\frac{1}{6} \times \frac{1}{10}$, with transparent substance in centre like a decolorised clot.

Corpora Alba, $\frac{1}{10}$, close to surface of ovary.

Corpora Alba, $\frac{1}{6} \times \frac{1}{18}$, deep in tissue of ovary.

Remains of *Corpus Luteum*, $\frac{1}{4}$, with a small blood-stained cyst occupying one corner of it.

Four *follicles*, $\frac{1}{20} \times \frac{1}{8}$, with clear fluid.

(5) A *follicle*, $\frac{1}{3}$, with thin lining membrane, infiltrated with blood, containing blood-stained fluid.

Follicle, $\frac{1}{3}$, transparent congested walls, containing clear fluid.

A *follicle*, $\frac{1}{6}$, with transparent congested walls, containing clear fluid.

Two or three *follicles* with clear fluid.

Left Ovary.—Weight, 116 grains; size, $1\frac{1}{4} \times \frac{3}{4} \times \frac{7}{10}$.

Surface of ovary smooth and shining, with dilated capillaries anteriorly. Posteriorly surface roughened and opaque with slight corrugation.

(1) Cortex somewhat thickened, $\frac{1}{30}$ thick.

Two or three *follicles* with clear fluid.

(2) *Follicle*, $\frac{1}{2}$-inch diameter, with transparent, congested lining membrane, containing clear fluid.

Remains of *Corpus Luteum*, $\frac{1}{8}$, with yellow walls $\frac{1}{40}$ thick, and a thin transparent clot in it.

Trace of *Corpora Alba* close to hylum of ovary.

Three or four *follicles*, $\frac{1}{20}$ to $\frac{1}{6}$, with clear fluid.

(3) Three or four *follicles*, $\frac{1}{20}$ to $\frac{1}{6}$, with clear fluid.

(4) One or two *follicles* with clear fluid.

Trace or *Corpus Luteum*, $\frac{1}{4}$.

(5) *Corpora Alba*, $\frac{1}{6}$.

Four or five *follicles*, $\frac{1}{10}$ to $\frac{1}{8}$, with thin congested walls, containing clear fluid.

XXI. Operation for Double Pyosalpinx, April 16, 1885. *A. H., æt.* 22. *Single. Last cat. lasted two weeks, and ceased on April* 12. *Loss profuse.*

Right Ovary contained a large cyst, which burst on removal of the ovary. Cyst, one inch, with walls thin and congested, containing blood-clot.

(1) Two or three *follicles*, $\frac{1}{10}$ to $\frac{1}{6}$, with clear fluid.

(2) *Corpus Luteum*, $\frac{1}{3}$, with semi-transparent yellow walls $\frac{1}{40}$ thick. No appearance of corrugation or of any contents, the walls having collapsed.

Trace of *Corpus Luteum*, $\frac{1}{8}$.

Two *follicles*, $\frac{1}{8}$, with clear fluid.

(3) *Follicle*, $\frac{1}{10}$, with semi-transparent white walls, clear fluid.

(4) Two or three *follicles*, $\frac{1}{10}$ to $\frac{1}{6}$, with clear fluid.

Left Ovary.—Weight, 70 grains; size, $\frac{3}{4} \times \frac{3}{4} \times \frac{1}{2}$.

Surface smooth and opaque, except where roughened by adhesions.

(1) Two or three *follicles*, $\frac{1}{8}$ to $\frac{1}{10}$, with clear fluid.

(2) Two or three *follicles*, $\frac{1}{8}$ to $\frac{1}{10}$, with clear fluid.

(3) One or two *follicles* with clear fluid.

(4) Three or four *follicles*, $\frac{1}{6}$ to $\frac{1}{10}$, with clear fluid.

Trace of *Corpus Luteum*, $\frac{1}{6} \times \frac{1}{12}$.

(5) Three or four *follicles*, $\frac{1}{6} \times \frac{1}{10}$, with clear fluid.

No appearance in either ovary of opaque white follicles. Some irregular thickening of cortex of both ovaries, but no corrugation of the surface.

XXII. Operation, April 25. *E. W., æt.* 35. *Single. Last cat. April* 18 *to* 25. *Small myoma with pain at periods.*

Right Ovary.—Weight, 98 grains; size $1\frac{1}{4} \times \frac{3}{4} \times \frac{1}{2}$.

Surface of ovary was anteriorly covered with minute vesicles containing clear fluid, and leaving cup-like depressions when fluid escaped. Surface slightly puckered, and marked with eleven purplish projections, size of a small pea. On the free border of ovary a recent cicatrice.

(1) Section through this cicatrice showed *Corpus Luteum*, $\frac{1}{8} \times \frac{1}{4}$, with corrugated yellow walls, $\frac{1}{30}$ thick, and containing the thin remains of a blood-clot.

Remains of four *Corpora Alba*, $\frac{1}{15}$. White nodules, easily removed.

Two *follicles*, $\frac{1}{8}$, with clear fluid; slightly injected transparent membranes (these were two of the purplish projections on the surface).

Trace of *Corpus Luteum*, $\frac{1}{10}$.

(2) Four *follicles*, $\frac{1}{10}$ to $\frac{1}{8}$, with clear fluid and slightly congested transparent membranes.

One *follicle*, $\frac{1}{8}$, containing clear fluid, with transparent, deeply congested lining membranes, beneath half of which was effused a soft black clot.

Numerous (twelve at least) *Corpora Alba*, from $\frac{1}{10}$ to $\frac{1}{18}$, with less corrugation than usual. These *Corpora Alba* were soft and œdematous.

(3) *Corpus Luteum*, $\frac{1}{9}$, with thin, faintly corrugated walls, containing a semi-transparent body with a light brown centre.

Three *follicles*, $\frac{1}{8}$, with clear fluid and transparent congested walls.

Two or three *Corpora Alba.*

(4) One trace of *Corpus Luteum*, $\frac{1}{12}$.

Six or seven *Corpora Alba*, $\frac{1}{8}$ to $\frac{1}{12}$.

Four *follicles*, with clear fluid and congested, transparent membranes, one with small blood-clot effused under the membranes.

Left Ovary.—Weight, 110 grains; size, $1\frac{1}{4} \times \frac{3}{4} \times \frac{1}{2}$.

A few vesicles scattered over it as in right ovary. Surface, anteriorly, rather puckered; posteriorly smoother. On the free border a cyst the size of a pea, filled with clear yellow serum, protruded. A soft ragged tear in ovary, nearly $\frac{1}{2}$-inch across; probably opening was enlarged on removal of ovary.

(1) Section through this tear showed *Corpus Luteum*, $\frac{1}{2}$-inch in diameter, with soft red substance filling cavity, which appeared to be the early stage of a yellow layer. It was a soft, semi-transparent, fawn-coloured substance, through which numerous fine capillaries were distributed. The mass could be stripped out of the cavity, its under surface being smooth, shiny, and transparent, leaving a similar smooth surface lining the cavity; in one place the lining membrane of cavity was becoming opaque, and in one or two places there was black effused blood in the yellow layer.

Two or three *follicles* with clear fluid.

Five or six *Corpora Alba* $\frac{1}{8}$ to $\frac{1}{10}$.

One remains of *Corpus Luteum*, $\frac{1}{6} \times \frac{1}{18}$, with very thin yellow walls, and containing a dark clot. Below cyst with clear yellow serum a *Corpus Luteum*, $\frac{1}{8}$ by $\frac{1}{10}$, with deeply-corrugated, bright yellow walls and containing soft black clot.

(2) Two or three *follicles*, $\frac{1}{8}$ by $\frac{1}{7}$, with clear fluid and transparent congested lining membranes.

Trace of two *Corpora Lutea.*

Trace of three *Corpora Alba*, $\frac{1}{10}$.

(3) Two *follicles* with clear fluid.

(4) Remains of *Corpus Luteum*, $\frac{1}{8}$, with bright yellow walls, $\frac{1}{40}$ thick, containing a mere speck of a clot.

Two or three *follicles* with clear fluid; slightly congested membranes.

(5) Four or five *follicles* with clear fluid and slightly congested membranes.

Corpora Alba, $\frac{1}{8}$; the opaque corrugated white walls were stained slightly yellow on one side and contained the trace of a clot.

XXIII. Operation for Chronic Ovaritis, May 4, 1885. *S. J., æt.* 25. *Single. Last cat. April* 20 *to May* 4. *Uterus retroflexed and bound down. Loss painful.*

Right Ovary.—Weight, 150 grains; size $1\frac{1}{4} \times 1 \times \frac{1}{2}$.

Surface of ovary smooth and slightly puckered. On lower border a congested patch with two ragged openings through which a red clot appears, with large capilliary vessels running towards it from all parts of the ovary.

(1) Section through the congested patch showed *Corpus Luteum*, $\frac{1}{2} \times \frac{1}{3}$, with well-marked, deeply-corrugated, fawn-colored walls, $\frac{1}{30}$ thick, containing dark-red clot. *Corpus Luteum* of a trefoil shape.

Remains of *Corpus Luteum*, $\frac{1}{4} \times \frac{1}{8}$, with deep yellow, slightly corrugated walls, containing a thin dark red clot.

Four *follicles*, $\frac{1}{11}$ to $\frac{1}{6}$, containing clear fluid; ovarian stroma œdematous and fibrous tissue increased in amount.

(2) Trace of *Corpus Luteum*, $\frac{1}{4} \times \frac{1}{10}$; bright orange in colour.

Six or seven *follicles*, $\frac{1}{10}$ to $\frac{1}{6}$, with clear fluid.

(3) Six or seven *follicles*, $\frac{1}{10}$ to $\frac{1}{6}$, with clear fluid; the walls in two or three were slightly congested, and in all, when the fluid had escaped, no appearance of transparent lining membrane; but the walls were slightly opaque and white.

(4) Trace of *Corpus Luteum*; an orange streak.

Follicle, $\frac{1}{7}$, with dark-red, injected, transparent walls; contents clear fluid.

Five or six *follicles* with clear fluid.

(5) Eight or ten *follicles*, $\frac{1}{10}$ to $\frac{1}{6}$, with clear fluid.

Graafian *follicles* of a small size unusually numerous; no *Corpora Alba* seen.

Left Ovary.—Weight, 84 grains; size, $1 \times \frac{3}{4} \times \frac{1}{2}$.

Surface of ovary smooth with slight scars.

(1) Seven *follicles*, $\frac{1}{10}$ to $\frac{1}{6}$, containing clear fluid.

(2) Five or six *follicles*, $\frac{1}{10}$ to $\frac{1}{6}$, containing clear fluid; two of the

follicles contained blood-stained, clear fluid, and had thin, transparent, injected walls.

(3) Four or five *follicles*, $\frac{1}{20}$ to $\frac{1}{5}$, with clear fluid.

(4) Four or five *follicles*, $\frac{1}{20}$ to $\frac{1}{7}$, with clear fluid.

(5) Trace of *Corpus Luteum*—a brownish-yellow stain.

Three or four *follicles*, $\frac{1}{20}$ to $\frac{1}{6}$, with clear fluid.

The *follicles* were numerous in this ovary.

No *Corpora Alba* seen.

Walls of *follicles* more rigid and opaque than usual, and some slightly congested.

XXIV.—Operation for Hæmatosalpinx, May 5, 1885. *E. L., æt.* 37. *Married. Last cat. April* 21.

Right Ovary torn away and part only removed. Ovarian tissue spread in a thin layer over a cyst, which was at least 1½ in diameter and contained granular, brownish-red altered blood. Walls of cyst lined with a flaky, yellowish-brown membranous tissue, below which the walls were injected with numerous bright red points.

Surface of ovary smooth and opaque.

Ovarian tissue of a dense fibrous character and no normal follicles were seen.

Corpora Alba, $\frac{1}{3}$, with an irregular central nodule of hard gritty matter, which did not crumble, but cut with a knife like bone; nodule, $\frac{1}{10}$ diameter, semi-transparent, and yellowish-brown in colour.

Two *Corpora Alba*, $\frac{1}{10}$ and $\frac{1}{6} \times \frac{1}{10}$.

Left Ovary.—Ovarian tissue spread in a thin layer over a central cyst the size of a Tangerine orange, and containing altered brown blood. Shining bands of fibrous tissue intersected walls of cyst, which were injected and stained with blood.

Surface of ovary puckered and roughened by adhesions. Colour, opaque white; at one point a yellow scar with a central opening.

(1) Section through this scar showed remains of *Corpus Luteum*, $\frac{1}{3} \times \frac{1}{30}$, with thin, yellow collapsed walls stained with blood.

Corpora Alba $\frac{1}{3} \times \frac{1}{20}$.

Trace of *Corpus Luteum*, $\frac{1}{4} \times \frac{1}{30}$.

(2) Two *Corpora Alba*, $\frac{1}{10}$ and $\frac{1}{4} \times \frac{1}{20}$.

(3) Trace or *Corpus Luteum*, $\frac{1}{6} \times \frac{1}{30}$.

Corpora Alba, $\frac{1}{10}$.

No trace of any normal follicles. Tissue of ovary fibrous, like the right ovary.

XXV.—Operation for Myoma, May 11, 1885. *E. S., æt.*, 45. *Married. Last cat. May* 9 *to* 16.

Right Ovary.—Weight, 36 grains; size, $\frac{3}{4} \times \frac{1}{2} \times \frac{1}{3}$.

Lipoma of broad ligament.

Surface of ovary corrugated and yellowish white; ovary much shrunk.

(1) Five *Corpora Alba*, $\frac{1}{10}$, in one a yellowish-brown blood-clot, dark-red in centre, shading at sides to brown colour; no defined walls.

(2) *Corpus Luteum*, $\frac{1}{8}$, with collapsed, thin yellow walls, and containing trace of brown clot.

Corpora Alba, $\frac{1}{8}$, central corrugated nodule, $\frac{1}{7}$, easily shelled out.

(3) *Corpora Alba*, $\frac{1}{10}$.

No normal follicles in ovary.

Left Ovary.—Weight, 52 grains.

Lipoma of broad ligament. Surface of ovary white and corrugated, in some parts yellow as though fat deposited. At one end a projection, size of pea, congested on one side.

(1) Section through this projection opened a *Corpus Luteum* with slightly-corrugated yellow walls, $\frac{1}{40}$, and containing a firm dark-red clot.

Two traces of *Corpus Luteum*, $\frac{1}{10}$ and $\frac{1}{20}$, and two faint brown stains in tissue of ovary.

(2) Trace of *Corpus Luteum*, $\frac{1}{9} \times \frac{1}{20}$; colour brown.

(3) Two *Corpora Alba*, $\frac{1}{8}$ and $\frac{1}{10}$.

One trace of *Corpus Luteum*, $\frac{1}{10} \times \frac{1}{20}$.

No normal follicles.

Ovarian stroma congested and yellow, as though fat deposited in it.

XXVI. Operation for Chronic Ovaritis, May 12, 1885. *M. K., æt.* 32. *Married. Last cat. April* 25 *to* 30.

Right Ovary.—Weight, 75 grains; size, $1\frac{1}{4} \times \frac{3}{5} \times \frac{1}{2}$.

Surface of ovary smooth; yellowish white in colour; marked with a few linear scars and bluish transparent spots.

(1) *Corpora Alba*, $\frac{1}{6} \times \frac{1}{9}$.

Three *follicles*, $\frac{1}{6}$ to $\frac{1}{10}$, containing clear fluid. In the smallest, the lining membrane transparent and congested.

(2) Traces of two *Corpora Lutea*, $\frac{1}{12}$.

Three or four *follicles*, $\frac{1}{6}$ to $\frac{1}{10}$, clear fluid; walls transparent and somewhat congested.

Two *blood-clots*, $\frac{1}{12}$, without any defined walls.

(3) Two *follicles*, $\frac{1}{6}$ and $\frac{1}{9}$, clear fluid and transparent congested walls.

(4) Remains of *Corpus Luteum*, $\frac{1}{8} \times \frac{1}{20}$, with thin collapsed yellow walls and faint trace of dark clot.

Three or four *follicles*, $\frac{1}{8}$ to $\frac{1}{12}$, clear fluid and slightly congested transparent membranes.

(5) Five *follicles*, $\frac{1}{6}$ to $\frac{1}{10}$, clear fluid and congested transparent membranes.

Left Ovary.—Weight, 103 grains; size, $1\frac{1}{4} \times \frac{6}{10} \times \frac{1}{2}$.

Surface of ovary smooth and yellowish white, except at the lower border, where it was deeply congested, to an extent $\frac{3}{4} \times \frac{1}{2}$ inch, with a central opening.

(1) Section through this showed—

Corpus Luteum, $\frac{3}{4} \times \frac{1}{4}$, with corrugated fawn-coloured walls, $\frac{1}{10}$, and containing clot, part of which was soft and dark-red, the rest pale organised lymph. The fawn-colored walls were much congested, and the corpus luteum appeared quite recent.

Corpora Alba, $\frac{1}{10}$.

Three or four *follicles*, $\frac{1}{6}$ to $\frac{1}{10}$, clear fluid and congested transparent membranes.

(2) *Corpus Luteum*, $\frac{1}{4} \times \frac{1}{6}$, thin yellow walls, and with trace of dark clot.

Trace of *Corpus Luteum*, $\frac{1}{12}$.

Follicle, with deeply congested transparent membranes stained with dark blood.

Three or four *follicles*, clear fluid.

(3) Three or four *follicles*, $\frac{1}{6}$ to $\frac{1}{10}$, clear fluid and congested lining membranes.

(4) Three or four *follicles*, $\frac{1}{6}$ to $\frac{1}{10}$, clear fluid and congested lining membranes.

XXVII. Operation for Chronic Ovaritis, May 14, 1885. *E. P., æt.* 33. *Last cat. May* 10 *to* 14.

Right Ovary.—Weight 110 grains; size $1\frac{1}{4} \times \frac{3}{4} \times \frac{1}{2}$.

Surface of ovary wrinkled, and with a dark congested patch $\frac{1}{3}$-inch in diameter.

(1) Section through this showed—

Corpus Luteum, $\frac{1}{3}$, with thin corrugated yellow walls, and containing firm dark-red clot.

Corpora Alba, $\frac{1}{9}$.

Seven *follicles*, $\frac{1}{8}$ to $\frac{1}{10}$, clear fluid.

(2) *Follicle*, $\frac{1}{6}$, with clear fluid.

(3) Four *follicles*, $\frac{1}{8}$ to $\frac{1}{7}$, clear fluid.

(4) Two *follicles*, $\frac{1}{8}$ to $\frac{1}{7}$, clear fluid.

Left Ovary.—Weight 120 grains; size $1\frac{1}{10} \times 1 \times \frac{1}{2}$.

Surface of ovary opaque and corrugated at one end.

(1) On section, deep in ovary, a small *dermoid cyst* opened about $\frac{1}{3}$-inch in diameter, and containing short hairs $\frac{1}{2}$-inch long, and an orange-colored oily fluid; hairs closely packed in cyst.

Remains of *Corpus Luteum*, $\frac{1}{6} \times \frac{1}{18}$; distinct yellow walls, and containing trace of blood-clot.

Six or seven *follicles*, $\frac{1}{8}$ to $\frac{1}{10}$, clear fluid.

(2) *Dark clot*, $\frac{1}{8} \times \frac{1}{20}$, with no distinct lining membrane (appeared as if blood effused into a follicle without any change occurring in walls).

Three or four *follicles*, $\frac{1}{8}$ to $\frac{1}{10}$, clear fluid.

(3) *Dark clot*, $\frac{1}{8} \times \frac{1}{20}$—like that in Section (2).

Two *follicles*, $\frac{1}{7}$, clear fluid.

(4) Three or four *follicles*, $\frac{1}{8}$ to $\frac{1}{7}$, clear fluid.

(5) Three or four *follicles*, $\frac{1}{8}$ to $\frac{1}{7}$, clear fluid.

Normal *follicles* unusually numerous and large.

XXVIII.—Operation for Myoma, May 23, 1885. *S. W., æt.* 29. *Married. Last cat. May* 9 *to* 14.

Right Ovary.—Weight, 92 grains; size, $1\frac{1}{8} \times \frac{3}{4} \times \frac{1}{2}$.

Surface of ovary smooth and marked with numerous cicatrices; colour yellowish white with a few transparent follicles shining through. The middle of the lower border of ovary occupied by a congested red patch $\frac{3}{4}$-inch long, and crossed by a ragged tear.

(1) Section through this showed a—

Corpus Luteum, $\frac{7}{10} \times \frac{4}{10}$, with deeply-corrugated fawn-coloured walls, injected by numerous capillary vessels, and containing a firm clot—dark red—at one side, and pale the other.

Remains of *Corpus Luteum*, $\frac{1}{6} \times \frac{1}{8}$, yellow walls, and containing remains of clot.

Trace of *Corpus Luteum* (a brown stain).

Corpora Alba, $\frac{1}{10}$.

Four *follicles*, $\frac{1}{6}$, clear fluid and transparent walls.

(2) Remains of *Corpus Luteum*, $\frac{1}{5} \times \frac{1}{10}$; yellow layer and remains of clot.

(3) Three or four *follicles*, $\frac{1}{6}$ to $\frac{1}{10}$, clear fluid.

Three traces of *Corpus Luteum* (stains of brown).

(4) *Corpora Alba*, $\frac{1}{10}$.

Follicles, $\frac{1}{5}$, clear fluid, and very slightly injected transparent walls.

Four or five *follicles*, $\frac{1}{6}$ to $\frac{1}{10}$, clear fluid.

(5) Three traces of *Corpus Luteum* (brown stains).

Three *follicles*, $\frac{1}{7}$ to $\frac{1}{12}$, clear fluid.

Follicle, clear fluid and slightly injected transparent walls.

Left Ovary.—Weight, 68 grains; size, $1\frac{3}{4} \times \frac{1}{2} \times \frac{1}{3}$.

Surface of ovary smooth and yellowish-white, and opaque yellow patch, $\frac{1}{5}$, on free border, with a central cicatrice. A dark purple patch, $\frac{1}{6}$, with two linear tears through cortex of ovary.

(1) Section through yellow patch showed—

Corpora Alba, $\frac{1}{5} \times \frac{1}{6}$, corrugated opaque white walls, and containing firm, smooth, opaque white clot.

Two *follicles*, $\frac{1}{5}$ and $\frac{1}{7}$, clear fluid and transparent, deeply-injected walls, easily stripped out of cavity.

Corpus Luteum, $\frac{1}{3} \times \frac{1}{6}$, with thin corrugated yellow walls, containing a moderately firm dark-red clot.

Trace of *Corpus Luteum*, $\frac{1}{3} \times \frac{1}{40}$.

Three or four *follicles*, $\frac{1}{5}$ to $\frac{1}{10}$, clear fluid.

Follicle, $\frac{1}{9}$; clear fluid and intensely congested walls.

(2) Remains of *Corpus Luteum*, $\frac{1}{6} \times \frac{1}{20}$.

Three *follicles*, $\frac{1}{6}$ to $\frac{1}{9}$, clear fluid and slightly injected walls.

(3) Section through the purple patch showed a *follicle*, $\frac{1}{6}$, containing a soft dark-red blood-clot, and with soft transparent injected membrane deeply stained with blood.

Trace of *Corpus Luteum*, $\frac{1}{5} \times \frac{1}{12}$.

Trace of *Corpus Luteum*, $\frac{1}{7} \times \frac{1}{9}$.

Corpora Alba, $\frac{1}{10}$.

Four or five *follicles*, $\frac{1}{10}$ to $\frac{1}{7}$; clear fluid.

REVIEWS.

Notes on Diseases of Women. By JAMES OLIVER, M.D., M.R.C.P., F.R.S.Ed., Assistant Physician to the Hospital for Women, London. Hirschfield Brothers, London, 1888.

This work consists of thirteen chapters, chiefly of a clinical nature, on some of the more common diseases of women. In chapter three, Dr. Oliver deals with sterility from a physiological standpoint, and points out a factor, too often overlooked, namely, that sterility frequently results from sexual incompatibility. He also draws attention to the part played by a luxurious and inactive mode of life. He says, "I have frequently remarked that women who tend to lay on fat rapidly are most apt to become barren. In the majority of such cases the adipose tendency is a morbid condition, and sterility is a mere concomitant, depending as it does upon that condition inducing the obesity."

In dealing with the question of malignant diseases of the uterus, the author states that his clinical experience leads him to believe that maligant disease and diabetes are, from an inheritance point of view, co-related to each other. He has at the present time under his care two sisters, the one suffering from advanced malignant disease of the uterus, the other from pruritus vulvæ dependent upon diabetes.

The work throughout displays considerable evidence of original observation. We think it will be read with interest and profit by gynæcologists and others who have to deal with disorders of the female sexual organs.

On Gonorrhœal Infection in Women. By WILLIAM JAPP SINCLAIR, M.A., M.D. London: H. K. Lewis, 136, Gower Street, W.C., 1888.

Dr. Sinclair has presented us with a most complete and exhaustive account of one of the most difficult and unsatisfactory conditions of the pelvic organs which the gynæcologist has to deal with. His work consists of, to a large extent, a reprint of papers which he published in the *Medical Chronicle* in 1887. The author is careful to state in his preface, that although he is writing on the subject of venereal disease in the female, he lays no claim to being a specialist in this class of disease. In this, however, we think that he is over modest, as in our opinion no one who has practised gynæcology as long as Dr. Sinclair has done so, and has attained such a position as he has done in the treatment of diseases of women, can fail, to say the least of it, to possess more than the average knowledge of such a widely spread disease as gonorrhœa. As he states in his preface, the subject has been very much overlooked, in this country more particularly. He has done good work in drawing the attention of gynæcologists to the question of gonorrhœal affection in the female, inasmuch as it is they who, all said and done, have the first opportunity in recognising the disease, and consequently of treating it. Of course these remarks will not apply to those cases that find their way into the Lock hospitals, and it is for this reason that the work of Dr. Sinclair is all the more valuable. Dr. Sinclair states that: "Gonorrhœa as it occurs in the female sex is still in this country strangely neglected by general practitioner and specialist alike. Its symptoms, its differential diagnosis, and the ravages which are its immediate or remote results, are hardly recognised or understood, and the treatment of it, as ordinarily practised, is contemptible. Yet the virus of this disorder gives rise to a group of diseases, a series of pathological conditions, which, by reason of their clinical interest, and their social and moral consequences, surpass in import-

ance any other class of affections with which the gynæcologist is called upon to deal." In giving the historical retrospect of pathology in gonorrhœa in women, Dr. Sinclair has divided the past into three periods: (1) Before Noeggerath's treatise appeared; (2) Noeggerath's work and immediate influence; (3) Neisser's discovery. Dr. Sinclair draws attention to the light manner in which gonorhœa in women is looked upon by medical men. He says, "Gonorrhœa in the woman is as ruinous as syphilis; there is little to choose betwixt the diseases. The men must protect the women. The great majority of them are amenable to reason, and would listen to the dictates of humanity and of honour if their consciences were appealed to. With regard to their wives, there is also the sentiment of self-interest to influence their actions. It only needs definite knowledge to be diffused among them as to the risk of inflicting untold suffering upon those whom they wish to protect, to greatly influence their conduct; and the only guardians of the necessary knowledge are the medical profession. While the doctors look upon gonorrhœa in women as a mere bagatelle, what can be expected of their self-indulgent male clients? As long as the medical practitioner believes that he can produce a 'precious result' at a critical time with a little nitrate of silver solution, the education of the lay man will not begin; he will not be adequately impressed with the physical grounds for exercising self-control in order to escape infection, or for the need of persevering industry and self-denial in order to completely and rapidly eradicate the disorder once contracted." It is indeed high time that this subject should be studied seriously, and appreciated at its real value by the medical profession at large. The thanks of medical readers are due to Dr. Sinclair for the exhaustive and complete account of the whole subject which he has made.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

Rapid Dilatation of the Cervix Uteri. By Y. H. BOND, M.D.

The author claims that by the rapid dilatation of the cervix uteri, he is able to permanently cure flexions, stricture of the internal os uteri, chronic ends, trachelitis, conical cervix and dysmennorrhœa. Instead of gradual dilatation or incision by hysterotome, which are practised by many, a large and increasing number of eminent gynæcologists are now employing the method of rapid dilatation. It may be accomplished at one sitting, requires a short rest only after the operation, and is more certain in its results.

The *rationale* of the treatment is not difficult to understand, for by it the circular fibres of the cervix are lacerated at various points, while the longitudinal escape injury.

There are two degrees of rapid dilatation. In the first only moderate dilatation is performed, and no anæsthetic is necessary. In the second degree the patient is anæsthetised and placed in the lithotomy position; antiseptic irrigation of the vagina is practised; the cervix is caught by a tenaculum and drawn down and a Corley-Sims' dilatator is introduced into the cervical canal, and dilatation completed. This divulsion occupies from ten minutes to half an hour. If any endocervicitis or endometritis is present, the curette is applied, another antiseptic douche is given, and a hard rubber plug passed into the dilated passage. This plug is retained for forty-eight hours if no untoward symptoms arise. This plug is worn off and on until the second menstruation, when the cure is *completed.*

Salines in Peritonitis following Abdominal Section. By T. M. BALDY.

This article was read in 1887 before the Obstetrical Society of Philadelphia, and evoked considerable discusson. The author has taken the hint from Mr. Lawson Tait, and now administers saline purgatives on the second or third day after abdominal section, especially when there is distension and vomiting. He has administered them in large doses—iʒ—several times a day, and has supplemented them with enemata of turpentine. In his experience, all bad symptoms begin to subside when watery stools are passed. The administration of salines by causing active peristaltic movements of the intestines prevents the formation of adhesions and bands; they prevent the throwing out and organizing of lymph to any great extent, and they drain the abdominal cavity of the products of inflammation. Opium, on the other hand, keeps the bowels "in splints," favours the formation of adhesions, and closes all the natural channels by which the poisonous products can escape, and thus, instead of allaying, favours inflammation.

Abdominal Section for Ruptured Typhoid Ulcer and for Intestinal Obstruction. By R. B. BONTECON, M.D.

Abdominal section for ruptured typhoid ulcer is, we believe, an extremely rare operation, and Dr. Bontecon when he performed the operation, was under the impression that it was the first performed for the purpose of closing a ruptured typhoid ulcer. The case is shortly as follows: T. D., æt. 25 years, unmarried, first began to feel unwell about October 1st, 1887. When seen on October 6th by Dr. Bontecon, the patient was suffering from fever, right iliac tenderness and gurgling, with other symptoms of typhoid fever. The illness pursued a favourable course until October 15th, when the thermometer registered 100°, and

the pain in the right iliac region was severe; tympanites over abdomen marked. On October 17th the temperature was still at 104°. The patient was vomiting a prune-juice matter; bowels constipated; abdomen tympanitic; legs drawn up; much abdominal pain; cold clammy perspiration; expression pale and pinched and eyes sunken. Peritonitis from intestinal perforation was diagnosed, and an operation advised as the only chance of saving the patient's life. This was submitted to. On opening the abdomen a quantity of blood-stained serum escaped. The ilio-cœcal valve was brought up into the abdominal wound and an ulcer found perforating the vermiform appendix. The portion of intestine with the ulcer was turned in longitudinally, and its peritoneal edges brought together by Lembert's sutures. No other perforation could be found. The peritoneal cavity was thoroughly cleansed and the abdomen closed. The patient expired shortly after the operation, but the operator believes that before long cases of this kind will be saved by prompt surgical aid.

Primary Tumours of the Broad Ligament with a Table of Seventeen Cases. By BAYARD HOLMES, M.D.

The patient had been twice married; had no children by the first husband, but one by the second husband three years before Dr. Holmes saw her. After the birth of this child the patient was treated for laceration of the cervix and retroflexion. The periods were regular though scanty, and in June, 1886, the patient was supposed to be pregnant, owing to the enlargement of the uterus. In July, 1886, menstruation was normal, and a careful examination revealed a tumour the size of a black walnut lying on Douglas' pouch. It was free and movable, and was thought to be an enlarged ovary, but its gradual increase in size and its increasing immobility during the next nine months negatived the diagnosis. As the patient seeemed anxious for the removal of this tumour, an operation was accordingly performed with every antiseptic precaution. On opening the abdomen two-thirds of the

tumour was visible on the right side of the pelvis, lying close up to the uterus. It was almost immovable. The tumour was hard, elastic, and smooth, and covered by peritoneum, which was reflected on to the walls of the pelvis. The right ovary was not found; the left appeared normal. A transverse incision was made through its peritoneal covering, and the tumour gradually enucleated. The broad base from which the tumour was removed was ligatured with silk sutures one inch apart from each other, the peritoneal edges were turned in and stitched together, and the abdominal wound closed. The patient made a perfect recovery.

Both by naked eye inspection and microscopical examination the tumour presented evidences of being a myoma of the broad ligament. A table of seventeen cases is published with the results. From this we see that six recoveries ensued; there were six deaths after operation from peritonitis or hæmorrhage; in two cases no operation was performed, death resulting in one of these two from suppùrative peritonitis; in three cases, though an operation was performed, the result is not stated. The origin of these rare tumours is still somewhat uncertain. By some they are regarded as arising from the non-striped muscular fibres existing in the broad ligament and tubes, and this seems supported by the researches of Graetzer and especially Cohnheim. That they do not arise from the ovary is shown by the form of the tumour, its microscopical elements, and its want of a pedicle.

Dr. T. A. EMMET illustrates the use of the vaginal tampon in the treatment of certain effects following pelvic inflammation (*New York Medical Journal*, February, 1888). The only class of cases in which he has derived any special benefit has been where he has supposed the blood vessels had degenerated into a varicose condition, and when this state of the veins has been brought about from the effects of local peritonitis with adhesions from the loss of the connective tissue, and from injury where the fascia has been involved. Plugs, the size of a walnut, are inserted, the patient being in the knee-chest position.

PROVINCIAL MEDICAL JOURNAL.

Ovariotomy in Aged People. By FANCOURT BARNES, M.D., M.R.C.P., Physician to the Chelsea Hospital for Women; Senior Physician to the British Lying-in Hospital and the Royal Maternity Charity.

Among the various abdominal sections occurring in my practice during the year 1886 were three cases of cystic disease of the ovary in women, aged sixty-five, seventy, and sixty-seven respectively.

Case 1.—M. A. R——, æt. sixty-five; married thirty-one years; menstruation ceased fourteen years ago, iv. para; last pregnancy twenty-four years ago. History: Six years ago noticed the abdomen began to swell. During the last four years abdominal pain has increased, the abdomen has become enlarged, and she has been unable to attend to her duties. On examination, the abdomen was found to be extremely distended by a symmetrical fluctuating tumour, reaching into the epigastrium and pressing on the diaphragm as to cause considerable dyspnœa. May 13th.—The patient was placed under ether and the usual incision made through the abdominal walls. Three large cysts were successively evacuated by the trocar, and thirty-five fluid pints evacuated. The pedicle was so broad that it was necessary to transfix and tie it in two places. The abdomen was then closed with silver sutures. The patient recovered without any unfavourable symptom, but as she was much emaciated it was deemed advisable to place her on a water-bed. The pulse and temperature were normal throughout.

Case 2.—R. H——, æt. seventy; married, vi. para. About eighteen months ago she noticed that the abdomen was gradually increasing, and that during the last three months it had rapidly become larger. She is extremely emaciated. The abdomen measured forty inches round the umbilicus. The distance from the umbilicus to the symphysis pubis measured eleven and a-half inches. Her general condition

was far from satisfactory. She vomited after every meal. Her breathing was carried on with such difficulty that she had to be supported in bed. Examination of the heart revealed a loud systolic murmur. Bronchitic rales were heard over the whole of the chest. April 5th.—The patient having been anæsthetised by chloroform, an incision of five and a-half inches was made through the abdominal wall. The cyst was found to be adherent throughout to the abdominal wall. The adhesions having been broken down, the cyst was evacuated. On drawing out the tumour the uterus followed it, and, as might be expected in a woman of her age, was atrophied, and attenuated to such a degree that it might easily have been transfixed and secured as part of the pedicle. The pedicle was then transfixed and tied, and the abdomen closed. A poultice was applied to the chest the same evening. April 6th.—As she complained of much pain in the lower part of the back, she was placed on a water-bed. April 10th.—The wound was dressed with iodoform, and two sutures removed. April 13th.—The remaining four sutures removed. April 14th.—Loud bronchitic rales heard over both lungs. April 28th.—Wound healed. May 8th.—Patient out of bed and doing well.

Case 3.—B: T——, æt. sixty-three; married forty years, x. para; last catamenia twelve years ago. She noticed a swelling in the abdomen two years ago. She was tapped ten months before admission into the hospital. There was a systolic murmur of the heart. The abdomen was distended from the symphysis pubis to the sternum. The veins over the abdomen were distended, and there was œdema of the walls. She measured forty-six inches round the umbilicus. On September 3rd the abdomen was opened, and the cyst was found to be firmly adherent throughout the whole of its anterior surfaces to the abdominal parietes. These adhesions having been stripped from the abdominal wall, the trocar was inserted, the tumour removed, and pedicle tied with silk ligature. The pulse and temperature remained normal until September 11th, when the sutures were removed and the

wound found to be firmly united, the only difficulty arising being a suspicious-looking red surface over the lower part of the sacrum. She was placed on a water-bed, and directions were given that she should be turned over from side to side at regular intervals. On the 2nd October she left the hospital perfectly well.

My chief object in recording the above cases is to draw attention to what I believe to be the most important factor in the management of aged people in ovariotomy, and that is, a sufficient amount of movement in bed. The ordinary practice is to keep the patient motionless on her back during, at least, the first five or six days after an operation. It is difficult enough for the young and fairly healthy subject to pass through this ordeal without developing bed sores or hypostatic congestions. As a matter of fact, I have seen retroversion of the uterus produced in this way in a young woman on whom I had performed perinæorrhaphy. It has for some time past been my custom to see that the patients are not kept fixed in this way on their backs. In all of the above cases I took particular pains to see that the patients were carefully moved first on to one side and then on to the other, so that they were not continuously lying in the dorsal position. In fact, as far as my experience goes, the danger from bed sores is the only complication to be dreaded after ovariotomy in aged people. It is obvious that the only way of avoiding this is to give the patient a change of position from time to time.

The Use of the Curette for the relief of Hæmorrhage due to Uterine Fibroids. By H. C. COE, M.D.

A reprint originally read before the Obstetrical Section of the Academy of Medicine. The following are the conclusions arrived at by the author.

1. The hæmorrhage in cases of fibroid tumour of the uterus has its source, not in the tumour itself, but in the hypertrophied endometrium.

2. The hæmorrhage is not directly proportionate to the

size of the tumour, but to the extent of the mucous surface—venous obstruction and the menstrual congestion in the mucosa are the chief active causes.

3. In certain cases the hæmorrhage can be diminished for a considerable period by thoroughly scraping away the hypertrophied endometrium, and repeating the operation as often as may be necessary to keep the menorrhagia under control.

4. Curretting is merely a palliative measure, but it may enable the patient to survive until she is relieved at the menopause, whereas radical operations too often result fatally.

5. Curetting in these cases should be regarded as an experiment, which, however, is so harmless and so frequently successful that we are justified in giving it a fair trial before advising oöphorectomy, myomotomy, or supravaginal amputation.

6. The use of the curette requires no special skill. It is an operation for the general practitioner, and is much more rational than to allow the patient to become exhausted by repeated hæmorrhages which medication and other palliative measures are powerless to control.

CANADA MEDICAL AND SURGICAL JOURNAL.

Some rare forms of Vulvar Tumour.

By W. P. MANTON, M.D.

The three subjoined cases are of interest.

Case 1.—The patient had been troubled with a small tumour in the posterior half of the right labium major for many years, which on examination proved to be a varix. Since marriage it has gradually increased in size. During menstruation it increases in size. At her last pregnancy in 1882 the varix increased in size, and during the passage of the shoulders of the fœtus at delivery, it was ruptured. Firm pressure with pledgets of cotton wool soaked in perchloride of iron effectually checked the hæmorrhage, which was alarming.

Case 2.—Patient was sixteen years of age; had begun to

menstruate a little over one year, when a fulness of the left labium major was detected. This fulness became more distinct, and when seen by the author was the size of a walnut. There was some irritation in the growth, but no pain. At each menstrual period the size of the growth increased. Its removal was safely effected and the tumour found to be a varix.

Case 3 was a female aged seventeen, who complained of "small red pimples with white caps" spread over the vulvar and mons veneris. No specific history could be elicited. These papules in time ran together, and soon formed two large growths involving the labia majora. The tumour on the right side was 3¾ inches in length, and 1½ inches in thickness; that on the left side being 3½ by 1½ inches. Secondary condylomatous growths were scattered about the surrounding parts. These growths were removed and eventually the disease was cured. Dr. Manton is inclined to think that in this case the growths were due to some cause other than specific disease, though he is careful to mention that when black wash was applied locally, and biniodide of mercury administered internally, the patient improved both in her general and local condition, a fact which would lead one to suspect specific disease.

CHICAGO GYNÆCOLOGICAL SOCIETY.

In the January number of the Journal of the American Medical Association we find the report of four cases of carcinoma of the cervix, by Dr. Christian Fenger, with some remarks on vaginal hysterectomy. The first specimen was from a woman forty years of age, upon whom vaginal hysterectomy was performed. The cervix was involved nearly up to the internal os. The operation lasted two hours, and the subsequent recovery was satisfactory.

In the next case the disease involved the posterier lip, and extended about one inch up the cervix. This operation was extremely easy. The uterus was not retroverted to remove

it; the ligaments were easily tied, and the peritoneal as well as the vaginal wound were easily closed.

The third case involved the cervix only slightly. Though there were symptoms of a previous perimetritis the uterus was freely movable, but the detachment of the bladder anteriorly was difficult, and a small opening was made into the bladder. This opening was immediately united and caused no subsequent inconvenience.

In the fourth case the disease extended about half-an-inch up the posterior wall of the cervix. The patient was a multipara, twenty-eight years of age. The uterus was large and bulky, and the operation proved tedious and difficult. The recovery of the patient was not uninterrupted, as the temperature continued high for some days. The specimens show that it is difficult to determine whether the carcinoma is limited to the portis, or extends up into the cervix, or even into the body of the uterus.

Dr. Fenger prefers to tie all bleeding points as they appear, as by this means the danger of hæmorrhage is done away with. If possible, the uterus should not be retroverted, but drawn straight down, so that the risks of septic poisoning may be be lessened. A variety of methods of draining have been advocated, but after-treatment is best carried out by packing with iodoform gauze. It is more convenient, less troublesome, and can be left *in situ* for days. If possible the ovaries and tubes should be left; their removal adds to the length and danger of the operation without any compensatory advantage. There is a danger of including the ureters in ligaturing the broad ligaments. This danger is done away with if ligaturing is done step by step. By this means the uterus can be brought lower down, and the final ligature of the broad ligament is hardly likely to include the ureter. The diseased surface is curetted just before the operation, and the surface thoroughly disinfected. Some statistics on the subject of vaginal hysterectomy show that the mortality after the operation has been steadily diminishing since its revival by Czerny, in 1879.

Mundé, in 1884, collected 255 cases with 72 deaths, or a

death-rate of 28 per cent. Fritsch reports 60 cases with 7 deaths or 10.1 per cent; Leopold reports 48 cases with 3 deaths, or 6.2 per cent.; Billroth estimates that 10.5 per cent. of cases operated on for carcinomatous mammæ die; while Schmid calculates the mortality in these cases at 5.2 per cent. Vaginal amputations for malignant disease give a mortality in Schræder's hands of 12.3 per cent.; while Gusserow has a mortality of 9 per cent. With these statistics before us, it would seem that vaginal hysterectomy is hardly more fatal than partial vaginal operations, and as there is a great difficulty in defining the exact extent of the growth, total extirpation of the uterus is safer as to a radical cure of the disease than a partial operation.

THE PITTSBURGH MEDICAL REVIEW.

Acute Psychoses following Gynæcological Operations.

By E. T. ILL, M.D.

The number of operations undertaken to cure neurotic conditions in women are comparatively numerous, especially abroad, though in this country they do not find favour.

An almost exactly opposite condition, where a gynæcological operation has been followed by a neurosis, is, however, of still less frequency; and the cases reported by Dr. Ill are of interest.

Case 1.—Mrs. B., æt. 61, the wife of a Methodist minister, came under Dr. Ill's care in November, 1884. She had been married forty years, had had five children, the last twenty-one years previously. There was no history of neurotic disease ever having been present. The patient was suffering from an abdominal tumour, which was diagnosed as an ovarian sarcoma, and consented to its removal. The operation, which lasted one hour and a-half, was carried out with strict antiseptic precautions. There was some fever after the operation, though the wound healed by first intention, and there was no evidence of peritonitis. Ten days after the operation the patient showed

symptoms of melancholia. These symptoms remained until November 28th, twenty days after the operation, when the patient was removed to her sister's house. After a long sleep there she awoke apparently well, and asked if the operation was over. She stated that from the time she passed under the influence of the anæsthetic until November 28th, everything was a perfect blank. Dr. Ill, after discussing some of the causes which might have conduced to this state, thinks that the shock of the operation was the true cause.

Case 2 was a widow, fifty-seven years old, who was operated on for an ovarian tumour. The growth was firmly adherent to the intestines, abdominal walls, omentum, mesentery and lower border of the liver. There were no pelvic adhesions. The operation lasted two hours; a drainage tube was inserted, and the wound dusted with iodoform. The pulse and temperature remained nearly normal during the succeeding days. Eight days after the operation the stitches were removed and the wound firmly united. The same day the patient began to wander, and three days later became almost maniacal. She was therefore removed from the institution, and after two weeks' mental wandering she gradually improved. She is now perfectly strong and well. In this case the mental symptoms were probably due to the excessive drain put upon the woman by the tumour, and by the frequent tapping she had undergone before consenting to the abdominal operation.

Case 3 was that of a young married woman, aged twenty-four years, the mother of two children. Ever since a miscarriage four months previously she had been pale and exceedingly nervous. There was present an ulceration of the urethra with cystitis which had been treated without success. Accordingly on January 25th, 1886, Emmet's button-hole operation was performed. Next day she became profoundly melancholic, and this condition lasted for some weeks. The ulceration of the urethra healed, but no improvement took place in the patient's mental condition until five weeks after her dismissal from hospital. No improvement was, however, noticed in the

cystitis. The patient gained strength and flesh, and in May of the same year, as the bladder trouble was almost intolerable, an opening was made into that viscus, with the result that she soon recovered perfectly. In this case the author considers the melancholia was in all probability produced by the drain on the system together with the excessively nervous condition the patient was in before the operation.

A few similar cases have from time to time been recorded. Thus Graube mentions a case of perinæorraphy, followed by hypochondriasis; Duerelius reports one after amputation of the cervix. Czempin records five cases of insanity following operations on the pelvic viscera, one of which was fatal.

THE BROOKLYN MEDICAL JOURNAL.

Laparotomy for Extra-uterine Pregnancy.

By G. R. FOWLER, M.D.

The particulars of a case of extra-uterine pregnancy are shortly recorded in this article. The patient had, for about a year and a-half before consulting Dr. Fowler, noticed an enlargement of the abdomen, which gradually increased in size and equalled a pregnant uterus at full term. It was semi-elastic to the feel and somewhat movable. No fluctuation could be detected. A nodulated feeling was found in parts of the tumour. The patient gave a confused history, but was positive she had always been regular. When seen by Dr. Fowler she was suffering from septic infection, and, as it was thought the tumour ovarian cyst or fibro-cystic tumour, abdominal section was advised and consented to.

After the usual incisions were made and the tumour came into view, it was found to be closely adherent to the uterus, and its walls extremely thin. The head and limbs of a fœtus about the seventh month could be felt through the walls. Sponges were packed round the tumour, which was now opened and the fœtus and debris removed. All adherent portions of the placenta were carefully left untouched. Every-

thing contained in the sac was extremely fœtid, and the hopes of the operator for the recovery of his patient were small. The sac was next washed out with a warm solution of hydronapththol, its edges carefully stitched to the edges of the abdominal wall, a drainage tube was placed in the lower angle of the wound, and the dressings applied. Small portions of debris from time to time drained away, but in three weeks the patient was discharged. The sac walls were probably composed of layers of the broad ligament.

THE INTERNATIONAL JOURNAL OF MEDICAL SCIENCES.

Six Self-inflicted Cæsarian Operations with recovery in five cases. By R. P. HARRIS, M.A., M.D.

The author shortly discusses the origin of the Cæsarian operation, and concludes that probably the operation was performed long before the time of the Cæsars, possibly by the Egyptians in the reign of the Pharaohs. The cases tabulated by Dr. Harris are shortly as follows :—

Case 1, in 1769 ; subject and operator a slave on a plantation in Jamaica. When in labour opened the abdomen to the left of the middle line with a broken butcher's knife. The first and only incision passed through abdominal and uterine walls, inflicting injuries upon the fœtus, which was extruded. A coloured midwife, who was then called in, tied, cut the cord, and replaced it in the uterus. Some hours later a doctor re-opened the wound, washed the intestines, removed the placenta through the wound, and then reclosed it. The child died on the sixth day from trismus nascentium. The mother recovered. There was no pelvic deformity in this case. She had had three previous labours which had terminated naturally.

Case 2.—Jan. 29th, 1822, Rensselaer County. Reported by Dr. Sam. McClellan. Patient and operator a quadroon aged fourteen years. Pregnancy illegitimate. While in labour opened her abdomen and uterus with a razor. She had

extracted one fœtus which she had hidden in the snow two hundred yards from the house when she was seen. She immediately ran into the house with a second child and a number of intestines hanging from the wound. Dr. Basset was called in and removed the second fœtus, together with a placenta with two umbilical cords.

The abdominal wound inflicted by the patient on herself was irregular, about four inches in length, situated about two inches above the umbilicus. At right angles to this was a second wound two inches in length close to the sternum. The edges of the wound were brought together by an interrupted suture and some ointment spread over it. The woman in six weeks had recovered perfectly.

Case 3.—September 26th, 1876. Tetschen, Bohemia. The patient was the mother of seven children, four of whom were delivered without assistance, two with forceps, one after craniotomy. Labour began and lasted for three days without any progress. As the patient was suffering from considerable pain and abdominal distension, she determined to relieve herself by opening her abdomen. The skin was divided slowly, but as the child did not appear she made several more cuts which opened into the uterus and divided the placenta. The latter she removed and then came upon a leg, by which she extracted the entire fœtus. She then tied the cord and placed the child beside her. There was considerable hæmorrhage, which nearly proved fatal to the mother. The wound was about 3½ inches in length, of an S shape. All intestines were cleaned and returned into the abdominal cavity; the wound was dressed with a five per cent. carbolic solution, fixed with strapping and a firm bandage applied round the abdomen. The child, when seen by Dr. Von Guggenberg, was dead, but the mother soon recovered.

Case 4.—Date? probably 1879. Pristina, Turkey. A peasant woman, after being in labour for three days, opened her abdomen with her husband's razor. A living child was born and the wound sewn up by a neighbour. Mother and child recovered.

Case 5.—Date not stated. Kiriloff, Novgorod, Russia. Reported by Dr. Aisenstadt. The patient was a married woman; 6 para; pregnancy illegitimate. At full term she opened her abdomen in the middle line with a peasant's axe. The abdominal wound was 5½ inches long, commencing three-quarters of an inch below the ensiform cartilage. The uterine wound was 4½ inches in length. A live child was extracted through the wound. Some hours after she had delivered herself she attempted to walk, but fell down from exhaustion and loss of blood and died the same evening. The method of treating the placenta in this case is not mentioned. The child lived eight or nine days. There was no pelvic deformity in this case, which is the only fatal one of the series.

Case 6.—March 28th, 1886. Viterbo, Italy. Reported by Drs. Baliva and Serpiera. A peasant woman, aged twenty-three years, was near full time of pregnancy. As her condition was the cause of annoyance to her, she opened her abdomen with a kitchen knife. The wound was 4¾ inches in length, and "situated in the middle of the right iliac region, from a little above the level of the umbilicus downward, and from without inward." The fœtus, which was extracted through this opening by the patient, had several lacerations on its chest, head and neck, and had died before breathing. The placenta was perfectly healthy. The wound was closed and its edges kept in opposition by a bandage wrapped tightly round the abdomen. Two hours after the operation she walked over half-a-mile into Viterbo, and breakfasted with her sister on bread and coffee. She then walked about the town for some time, "to show herself and put an end to the current talk about her pregnancy." On returning home she was seized with much faintness, abdominal pain and vomiting. The bandage slipped up and allowed some coils of intestine to protude. Drs. Balira and Serpieri were now called in. They cleaned and replaced the intestines, and closed the wound with wire sutures twisted. The woman made a complete recovery, and forty-eight days after the operation was walking about. Dr.

Harris remarks upon the fact that in all these cases the pelvis was normal, and had any abnormality existed the mortality would have been greater.

THE AMERICAN LANCET.

Ovarian Tumours. By C. G. DARLING, M.D.

The author reports a case of ovarian tumour which presents somewhat unusual symptoms.

The patient had for several weeks been troubled with a constant uterine hæmorrhage, which she attributed to the change of life, as the flow at each menstrual period became more profuse than at other times. No examination was made at this visit, as the patient objected. Medicines were, however, administered which improved the health of the patient for some time. After an interval of comparative good health the menorrhagia and metrorrhagia returned. An examination now revealed an abdominal tumour in the left iliac region, and the uterus measured six inches in length by four or five broad. A few days later a second tumour was discovered in the right iliac fossa. Both tumours were uniformly rounded, the size of an orange, and seemingly intimately connected with the uterus. A diagnosis of fibroid tumours of the uterus was made, and the patient ordered suitable medicine. About a month later the abdominal cavity was found to be so distended with ascitic fluid that the size or shape of the tumour could not be ascertained. The ascitic fluid was drawn off by aspiration, and the tumours found to be greatly increased in size. The patient was now in an extremely feeble condition, and suffering from peritonitis. Two months after the first examination the cystic nature of the tumours became apparent, and abdominal section performed. On opening the abdomen it was found that numerous adhesions existed, together with acute peritonitis. The cysts were removed, the ascitic fluid drained off, and the peritoneal cavity thoroughly sponged out. The patient slowly but gradually recovered from the operation.

THE MEDICAL NEWS.

Ustilago Maydis as an Oxylaxic. By Dr. W. A. DORLAND.

The use of this drug in parturition in place of ergot has been tried, but little is known of its action. The author having experimented with it finds that in lower animals it acts upon the spinal cord, paralysing first the sensory, later the motor tracts, finally involving the motor nerves. Its action upon the uterus has been studied. In about twenty minutes after the administration of the drug, the pains of labour, if present, become increased in severity, frequency and duration, and assume a clonic character. The indications for the employment of the drug during parturition are (1) failure of pains with complete dilatation of os uteri, (2) inefficiency or entire suspension of the parturient pain, (3) a condition of uterine inertia threatening or producing post-partum hæmorrhage. The fluid extract is the most reliable form in which to administer the drug, the dose of which varies from ℥ss to ℥ij; it may, however, be used hypodermically in cases of 10 to 15 minims. Its advantages over ergot are that it does not produce irregular contractions; it only contains 2½ per cent. of fixed oil, whereas ergot contains 25 to 28 per cent; it can be procured at a cost of 50 per cent. less than ergot.

ANNALES DE GYNÉCOLOGIE.

Hybrid Gonorrhœal Infection in Women. By BUMM.

At the meeting of the German physicians and naturalists held at Wiesbaden in 1887, Bumm communicated an article with the above mentioned title. By hybrid infection he understands the introduction of two distinct kinds of organisms. The process is as follows: One of the varieties creates in the organ on which it acts a morbid state, and it is then, upon this prepared ground, that the second kind of organism settles. As an example, a lung, which has once been the seat of a pneumonia, is accessible to the bacillus tuberculosis. A

similar process takes place in gonorrhœal infection in women. Thus in suppuration of Bartholini's glands, the micro-organism of gonorrhœa first invades the part and is followed by the micro-organism of suppuration.

Perinæorrhaphy (Tait's method). By SANGER.

Sänger has performed perinæorrhaphy by Tait's method seventeen times: seven times for prolapsus, more or less marked, of the vaginal walls and uterus; three times for complete lacerations, and seven times for incomplete lacerations. In every case the result has been most excellent. He considers this method of operating simple and a great advance in plastic surgery. It has many advantages over all other operations for lacerated perinæum.

Perforation or Cæsarian Section. By WYDER.

The conclusions arrived at by the author are as follows: (1) Contracted pelvis being divided according to the degree of contraction into four classes; when the contraction belongs to the third or fourth class, it is necessary, if the case be met with in time, to discuss the question of premature delivery as well as that of perforation or Cæsarian action. The choice of operation may be left to the woman. (2) When the contraction is of the first or second degree it is advisable, when the patient is a primipara, to perform Cæsarian action only when it is absolutely necessary; in multipara, the operation is only justifiable if the former labours have been greatly complicated. While the mortality of Cæsarian section is double that of perforation, no one has a right to assert that the former should be entirely substituted for the latter operation. According to Crédé, Cæsarian section gives a maternal mortality of 17.5 per cent.; perforation, according to Wyder, 8.4 per cent.; and premature delivery 8.2 per cent.

Multiple Abscesses in Suckling Children. By ROULLAND.

The author concludes this article, in which he adduces six examples, as follows: (1) Multiple abscesses occur in the

subcutaneous cellular tissue of suckling children. (2) They owe their origin to a variety of causes. (3) In certain cases they are attributable to an organism peculiar to the individual or to a hereditary constitution. With regard to the hereditary diathesis, syphilis ranks first in importance and frequency; scrofula generally occurs as a later manifestation. (4) A large number of cases may be classed under the term abscesses of infection. This class arises, according to Escherich, by the penetration into the glandular orifices of pyogenic organisms, which are normally deposited on the surface of the epidermis. (5) Auto-infection also plays a part in the production of these abscesses.

JOURNAL D'ACCOUCHEMENTS.

The Action of Antipyrin in Painful Uterine Contractions.

By Dr. CHOUPPE.

The author has already noticed the good effects antipyrin has in uterine colic. His latest researches have impressed him with the value of this drug in cases in which ergot of rye causes painful contractions. In one case of uterine fibroid, in which ergot was administered and caused severe pain lasting for several hours, antipyrin administered in doses of 2 grammes was the means of arresting the pain in twenty minutes. When the antipyrin was administered at the same time as the ergot, no pains whatever were complained of. The carminative influence of the antipyrin lasted sufficiently long to allow a second dose of ergot to be taken one hour and a-half later without pain. The absence of pain could not be ascribed to the deterioration in the quality of the ergot, for the contractions continued as before, both in intensity and duration; and the improved condition of the patient and cessation of hæmorrhage proved that the ergot was acting powerfully.

BULLETIN GÉNÉRAL DE THERAPEUTIQUE.

Ovariotomy. By Dr. TERRILLON.

In the January number of this Journal Dr. Terrillon records his third series of thirty-five ovariotomies. The operations were performed as a rule in Salpêtriére, and extended from October, 1886, to November, 1887. This series comprises operations undertaken for the removal of cysts or tumours of the ovaries, and does not include abdominal sections for removal of inflamed ovaries, or healthy ovaries in the case of fibromata. Out of thirty-five operations there were four deaths, all of which occurred in the first sixteen operations.

Case 1.—Patient aged 50; had noticed the tumour for five years. Had had symptoms of peritonitis. At the operation, which lasted two hours, many adhesions were found. The tumour was a multilocular cyst with solid masses, partly decomposed and suppurating. Patient died next day of exhaustion.

Case 12.—Age 61 years; had been ill for eighteen months. The patient was very feeble on her admission to hospital, and had suffered from peritonitis. The operation lasted 1¾ hours, and was exceedingly difficult, owing to the numerous adhesions to the posterior wall of the uterus and surrounding organs. The pelvis was drained by two drainage tubes. The cyst was multilocular with fatty and calcareous walls. Death took place the fourth day after the operation from exhaustion.

Case 14.—Patient was 49 years of age; had been ailing for three years, and had frequently had attacks of peritonitis. The operation lasted 1¼ hour. On cutting through the abdominal walls the cyst was found to be adherent to the parietes, the omentum and diaphragm. The cyst was multilocular with gelatinous contents. Death occurred two days after the operation.

Case 15.—This was the fourth and last case of death in the series. The patient was 22 years old, and had been ailing for two years. The cyst had twice been punctured, and a small

quantity of gelatinous fluid withdrawn. The operation lasted 1¼ hours, and was incomplete. There were many adhesions to the abdominal wall and other parts, which on being torn through gave rise to serous oozing which could not be controlled. The peritoneal cavity was washed out. The tumour was a multilocular cyst with friable walls. Part of the tumour had suppurated. Death from shock occurred five hours after the operation. In commenting on this case Dr. Terrillon points out that the two punctures of the cyst, during pregnancy, were followed each time by symptoms of suppuration of the cyst, and complicated the case immensely. The varieties of tumours removed comprised twenty-one multilocular ovarian cysts, seven unilocular cysts, six parovarian cysts and one sarcoma of the ovary. The operations in all but two cases were complete. The operator exercises the greatest care as regards cleanliness, and insists on the use of carbolic acid as an antiseptic; the spray is according to him "useless, inconvenient and dangerous." In all cases in which much blood is effused into the peritoneal cavity, through washing out of that cavity is practised; in the simple cases the less elaborate the peritoneal toilet is the better the result will be. In the after treatment it is very desirable that the bowels should be kept open from the beginning. Calomel and castor oil will be found of great use, and the magnesia salts are often employed. On the second or third day after the operation beef-tea, tapioca, milk, &c., are allowed, and the patient's strength recruited as much as possible.

Laparotomy in the Treatment of Peritonitis.

By Dr. PODREZ.

Cases of peritonitis, treated and cured by abdominal section, are still scanty. The publication of every fresh case is consequently of importance. In the case before us the patient was thirteen years of age, suffering from purulent peritonitis. Frequent collapses having threatened the patient's

life, an abdominal section was submitted to. At the operation much purulent matter was removed, and the peritoneal cavity washed out with a solution of boracic acid of the strength of 5 : 100, and a sublimate solution of the strength of 2 : 1,000. The patient recovered.

Laparotomy for Tubercular pyo-Salpingitis. By M. JEANNEL.

An interesting case is recorded by M. Jeannel, in which the difficulty of diagnosing between cystic disease of the ovary, and dilatation of the tubes is well marked. The case was one in which a tumour, the size of a 7½ months' pregnant uterus, filled the abdomen. To the touch its walls were smooth and regular; there was an obscure fluctuation present; and all the ordinary signs and symptoms of pyo-salpingitis were absent. A multilocular ovarian cyst was diagnosed, but on opening the abdomen it was found to be a large tubercular pyo-salpinx. The ultimate result of the case was unfortunate; an abscess formed in the pelvis, and the patient died of septicæmia and general tuberculosis.

CENTRALBLATT FUR GYNAKOLOGIE.

A Case of Total Absence of Uterus; Vagina Normal.

By Dr. STEINSHNEIDER.

This absence of the uterus and ovaries is of interest from its rarity. The subject of the report was 28 years old, had been married five years, but had no children. She had never menstruated. For the last three years she had suffered from various ailments, which she believed were the cause of her sterility. She had never experienced menstrual molimina, neither had she ever experienced sexual desire nor any voluptuous feelings. On examination she presented an anæmic appearance; was of middle stature with an average sized pelvis, and small rounded mammæ. The labia majora and minora were large and loose, and without adipose tissue. The vagina, which was three inches in length, ended as a smooth cul-de-sac. No uterus or ovaries could be detected either by bimanual or rectal examination.

Fatal Intoxication by Dilute Solutions of Bichloride of Mercury. By Dr. STEFFECK.

The patient was a multipara, who miscarried when five five months pregnant. The fœtus was macerated. The placenta was retained, and as hæmorrhage persisted for some hours the vagina was plugged with iodoform gauze. Twenty-four hours after the birth of the fœtus, as the placenta was still retained, the patient was anæsthetised, the ordinary antiseptic vaginal douche given, an intra-uterine one of one quart of 1 : 5,000 was used, the placenta removed, and a second intra-uterine douche administered. Both intra-uterine douches consisted of warm mercurial solution of 1 in 5,000. Ergotin was also administered. One hour after the removal of the placenta symptoms of mercurial poisoning set in, with stomatitis and acute nephritis with anuria. Seven days later the patient died. At the autopsy were found dysenteric enteritis, acute parenchymatous nephritis, with emphysema and pulmonary œdema. Steffeck remarks that the mercury entered the system through the placental site. Every precaution was taken to empty the uterus after the intra-uterine douches, and uterine contraction after removal of the placenta was marked.

INTERNATIONAL JOURNAL OF MEDICAL SCIENCE.

The Elastic Ligature in Myotomy, and in Supra-vaginal Amputation. By Dr. KUHN.

Most surgeons who practise the extra-peritoneal method of treating the stump after the removal of fibroids, admit that the intra-peritoneal method is the ideal one. Kuhn, at a meeting of the Aerztl. Centralverein, in 1886, reported six cases of supra-vaginal amputation in which the stump had been treated intra-peritoneally, with the result that only one death occurred. In this case the elastic ligature surrounding the stump was entirely buried by plastic lymph, while the stump itself appeared perfectly healthy. This mode of procedure is

as follows: the rubber ligature consists of two tubes, three and one half and six millimetres in diameter which are joined together (one within the other?) and are previously soaked for two days in a 5 per cent. solution of carbolic acid. This cord is passed twice round the base of the tumour and is tied in two knots. The stump is sutured with catgut. If the uterine cavity is opened, the cervical mucous membrane is excised in a funnel-shaped mass. The stump is thoroughly disinfected with a solution of bichloride of the strength of 1 in 1,000. The entire operation is conducted under the carbolic spray.

THE AMERICAN JOURNAL OF OBSTETRICS.

Intra-Ligamentary Ovarian Cysts.

By WILLIAM GOODELL, M.D.

A short description of the true ovarian cyst, and the parovarian or broad ligament cyst precede the remarks on the subject of the paper. Intra-ligamentary cysts are of two varieties; the first is a unilocular papillomatous cyst, containing clear limpid fluid with papillary ingrowths; and is probably a cystic degeneration of the vertical tubules of the parovarium. It is encapsuled by the folds of the broad ligament to which it is loosely attached.

The second variety is the multilocular intra-ligamentary cyst, which is much more frequently met with than the former kind, and is much more firmly attached to the surrounding organs with which it forms dense adhesions. The origin of the multilocular intra-ligamentary cyst is still a debated point. According to Sinéty, the growth is due to follicular degeneration of supplemental ovarian tissue, lying between the folds of the broad ligament. This theory is supported by the observations of Wiegel, who found twenty-three accessory ovaries in 600 autopsies; but against it is the presence of the papillomatous ingrowths present in these cysts. Coblentz regards these cysts as developments of the tubules in the paroöphoron

—a supposition which will account for every character of the cyst, except the presence of daughter-cysts. Doran, whose views on this subject are now generally accepted, considers that these cysts are the result of a morbid growth of stray fœtal relics which exist in the hilum of the ovary. This theory accounts for every peculiarity of intra-ligamentary cysts. Instead of growing upwards in the peritoneal cavity, intra-ligamentary cysts tend to grow downwards and inwards, separating the folds of the broad ligament from each other, and from the surrounding structures, and forming dense connections with every organ it comes in contact with. The uterus is displaced laterally, and sometimes greatly elongated. The cyst restrained in its further downward growth may peel the peritoneum off the anterior abdominal wall and bladder. The cyst is now extra or sub-peritoneal, but in its further upward growth it may stretch the peritoneum to such an extent that that membrane gives way and the cyst becomes intra-peritoneal. The colon and small intestines are sometimes pushed up in front of the cyst, so that we find resonance on percussion. The papillary growths may then cut the cyst wall, and finally ulcerate it, and the contents escape into the peritoneum. An important question then arises as to the malignancy of the infection. In the author's experience a favourable prognosis may generally be given, as in the majority of cases which have come under his notice complete recovery has taken place.

The Relative Effects of Electrolysis, and Rapid Dilatation in the Treatment of Sterility and Dysmenorrhœa. By HENRY D. FRY, M.D.

The class of cases especially alluded to in this paper is that in which the dysmenorrhœa and sterility are due to an elongated cervix with a pin-hole os; constitutional cases or local morbid conditions are excluded entirely. Though it is questionable whether a contracted cervical canal is ever the cause of dysmenorrhœa, the author is satisfied that when means are

taken to relieve the contracted canal the result is beneficial. The methods employed in dilating the cervix are numerous, and the same objection is applicable to all. Though relief may follow immediately dilatation has been practised, the contraction will, in time, become as marked as formerly, and dysmenorrhœa will return. Of all the methods of dilatation rapid dilatation is the only one which can compare with electrolysis. The treatment of the latter means is simple, in that no anæsthetic nor assistant is needed; the treatment can be carried out in the consultant's room, and the patient resume her work shortly afterwards. Rapid dilatation, on the other hand, requires an anæsthetic, and rest for some days after. Electrolysis is safer, unless used by the careless and ignorant. The electrode is passed into the cervical canal, and is gently pressed against the constriction, which in a short time is overcome. Rapid dilatation tears the cervical tissue, and is frequently followed by inflammatory conditions. The immediate and remote effects of electrolysis are better and more lasting, especially when currents of small intensity are employed. When rapid dilatation is employed the original contraction and dysmenorrhœa in time return.

Interstitial Salpingitis. By H. J. BOLDT, M.D.

The author recognises two kinds of salpingitis; the catarrhal form, which may be either simple or purulent; and interstitial salpingitis. Both these varieties are secondary; the inflammation in most cases having extended from the uterus. In interstitial salpingitis the first change met with is an œdematous swelling of the connective tissue between the muscular bundles; the blood vessels are dilated and engorged with blood, and lying round them are inflammatory corpuscles, some of which are emigrated leucocytes, while others are derived from the connective tissue. These inflammatory corpuscles are found not only round the blood vessels, but also infiltrating the connective tissue, especially where the œdema is not marked. Later on, these inflammatory corpuscles

increase in number, and are derived from a breaking up of the unstriped muscular fibres, besides the two sources already mentioned. The nuclei of the muscle fibres break up into small granules; then the whole fibre breaks up into masses of varying size, and finally is transformed into a row of inflammatory corpuscles. Chronic interstitial salpingitis may become formative, that is, after more or less destruction of the tissue has taken place; new fibrous tissue is formed with a subsequent thickening of the tube walls. Another termination is atrophy. Here the epithelium lining the tube becomes shorter than normal, the cilia are lost, the calibre of the tube is greatly diminished, and the connective tissue surrounding the tube is greatly increased. So long as the epithelium remains no occlusion of the tube will take place; but in time the epithelial cells break up, some to be carried away, some to infiltrate the adjacent tissues as inflammatory corpuscles, and occlusion then takes place. Peritonitis generally accompanies interstitial salpingitis, the infection being conveyed along the connective tissue.

Removal of the Uterine Appendages.

By MARY A. DIXON, M.D.

We find in this article a report on five cases in which the ovaries and tubes were removed for disease. The author discusses the titles which have, at different times and in different places, been fastened on to the operation. The term, *Battey's operation*, is out of court, as that operation is undertaken to bring on artificially the climacteric period, and for this purpose healthy ovaries are removed. The term "spaying," when applied to removal of the uterine appendages is a misnomer, and Dr. Mary Dixon objects most strongly to it. The five cases are shortly as follows.

Case 1.—Patient æt. 22; a nurse. When 17 years old had malarial fever, and menstruation was suspended for eighteen months. The reappearance of menstruation was accompanied by severe pelvic pain, which has now become

chronic. Vaginal examination revealed a right ovary, enlarged, tender, and prolapsed. A month after the patient was first seen the right ovary was removed; the left ovary being left *in situ*. Recovery was perfect. Patient some months later looked strong and well, expressed herself as cured.

Case 2.—Patient æt. 18; was first seen in January, 1887. Complained of severe and constant sickness and inability to perform her duties as a domestic servant. Had been obliged to leave every situation she had gone into. Some days before and during menstruation, dysmenorrhœa was excessive. Vaginal examination showed anteflexion, adherent and tender appendages. A course of treatment was prescribed, but as no improvement took place the uterine appendages were removed. Recovery was perfect and the result satisfactory. A microscopical examination proved that the Graafian follicles were intensely inflamed, many being the seat of hæmorrhages. They were surrounded by inflammatory layers which were stratified.

Case 3.—Mrs. L., æt. 36; married, no children. For the last thirteen years has complained of great pelvic distress and pain, with weakness, prostration, and inability to perform her ordinary household duties. Vaginal examination:—Ovaries enlarged, prolapsed and tender. For six months treatment was tried in hospital, but as no improvement took place the appendages were removed. Result most satisfactory in every way. Microscopical examination showed that both ovaries were in a state of sub-acute inflammation. The vessels were the seat of arteritis and endarteritis, and in some cases were blocked by collections of micrococci.

Case 4.—Mrs. M., æt. 43. Had been suffering for many years; was weak, anæmic, and quite unfitted for her work. Complained of constant pain and bearing down in the pelvis. Has suffered from severe and constant uterine hæmorrhages. Examination:—Uterus retroflexed, with a fibroid in fundus. Appendages extremely tender and low down. Abdominal section performed with very satisfactory result. Microscopical examination showed that the tubes were the seat of acute

catarrhal salpingitis; the ovaries were atrophied and shrunken.

Case 5.—N., æt. 31, married twelve years; four children. Has suffered constant and severe pain in pelvis and back for the last ten years. Examination :—The appendages enlarged, tender and prolapsed; uterus retroverted and bound down. Laparotomy was performed and the patient made a rapid recovery. Some months later the patient asserted that she was in excellent health and had not been so well for fifteen years. Microscopical examination :—Tubes, suppurative parenchymatous salpingitis, ovaries, interstitial ovaritis.

In all these cases abdominal section was performed for a diseased condition of the appendages; and the subsequent history of the cases seems to justify the operation.

NOTES.

We understand that Mr. Knowsley Thornton has been appointed Consulting Surgeon to the New Hospital for Women, where the physicians are women, in place of Mr. W. Appleton Meredith, who has resigned that office.

Full price will be paid for copies of parts V. and X. of the BRITISH GYNÆCOLOGICAL JOURNAL, if sent to Messrs. John Bale & Sons, 87-89, Great Titchfield Street, Oxford Street, London, W.

William Japp Sinclair, M.A., M.D., C.M., has been elected Professor of Obstetrics, at Owens College, Manchester, in succession to Dr. Cullingworth, resigned.

OBLIQUE QUOTATION.—Dr. John Williams in his presidential address to the Obstetrical Society, says: "For the account of Dr. Arthur Farre I am indebted to Dr. Priestley, who wrote the obituary notice which appeared in the *Lancet*, and from which I quote freely." In this notice it is stated "that Dr. Farre, with his co-examiners, Drs. BARNES and PRIESTLEY, resigned the office of Examiner in Midwifery to the Royal College of Surgeons." And this is how Dr. Williams proceeds to quote *freely*: "This post he resigned in 1875, together with his fellow-examiners, Dr. PRIESTLEY and Dr. BARNES, as a protest against the admission of imperfectly qualified persons to the right of being placed on the Medical Register." The effect of this oblique quotation might be to imply, first, that Dr. Priestley was the senior to Dr. Barnes, which was not the case; and secondly, that Dr. Arthur Farre and Dr. Priestley were entitled to equal merit with Dr. Barnes in thwarting the Council of the College of Surgeons in their attempt to carry a measure detrimental to the interests of the profession and injurious to the public. Had Dr. Williams sought fairly to represent the society of which he is president, he might, by consulting the Transactions of the Society for 1876, have seen that the Society passed a resolution, in moving which, Dr. Murray said, "He could not but admire the unhesitating resignation of Dr. Barnes;" and that the resignations of Dr. Farre and Dr. Priestley really followed, and were in fact forced, by Dr. Barnes' independent action.

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THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, MARCH 28, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 32 Fellows, 13 Visitors.

The following were elected Fellows of the Society:—Dr. C. F. Willis, Dr. J. D. Thorburn, Dr. L. M. Sweetman, Dr. I. A. Stone, Dr. W. P. Manton.

The following were proposed for election:—Dr. A. G. Bateman, London; Dr. Samuel Dickey, Belfast.

Discussion on Electrolysis.

Dr. BANTOCK said, Mr. PRESIDENT, If we have regard to the amount of attention that is being given, not only by the profession but also by the public, to the so-called electrolytic treatment of fibroid tumours of the uterus, we cannot but look upon it as a very important matter, and as one that is well worthy of the time that may be devoted to its discussion by this Society. For my part I quite sympathise with the views expressed the other night by Dr. Aveling, and think we ought to avoid, as much as possible, the exhibition of any partisan spirit. In the remarks I have to make, and for which I bespeak your indulgence, I shall endeavour to confine myself to the strictly scientific aspect of the question, and while I

shall not hesitate to express my own adverse opinions, giving a reason for the faith that is in me, I am yet prepared to consider dispassionately and without prejudice any evidence of a trustworthy character that may be adduced in support of this method of treatment.

You may remember that I called attention to this question in the valedictory address which I had the honour of delivering before this Society a short time ago. I then stated my views as fully but as concisely as I could, and I am not sorry that I did so; for, after listening to the very interesting and instructive paper which was read at our last meeting, I felt that I was more than justified in what I then said. I was very much impressed by Dr. Parson's paper, I may say I was very much gratified, not because it tended to knock to pieces the whole fabric that has been so elaborately built up and with such a flourish of trumpets, not because it shewed that this new method of treatment has failed to come up to the expectations formed of it or to furnish evidence in support of the claim that has been set up for it, but because it confirmed the views I had formed after a careful consideration of the evidence hitherto produced in its favour. And I draw this comforting and flattering conclusion that I seemed to know—perhaps divined—more about the subject than I ever gave myself credit for. We do not expect any method of treatment of any disease to be uniformly successful, but we do expect, and have a right to expect, that it will at least show a goodly majority of completely successful results. Here, then, is the point in which this method appears to me to have signally failed.

In the first place, I recall to your minds that I controverted the idea that any electrolytic action was exerted by the galvanic current except in the immediate neighbourhood of the electrodes. I pointed out that this idea pre-supposed or involved an affinity between the neoplasm and the current; in other words, a peculiar susceptibility of the neoplasm to the action of the current, which had not been proved to exist. And here comes Dr. Parsons admitting the correctness of my

opinions, as a deduction from his experiments devised with the view of elucidating this very question. Dr. Parsons, as I understood him, distinctly contradicts this theory or statement of electrolytic action extending from pole to pole, and was equally positive that it is confined to the immediate neighbourhood of the poles. Were it otherwise I cannot conceive how the matter could have remained so long in doubt, for had the agent possessed this property it would have proved itself of a most destructive character, and it was on the absence of any evidence of such intermediate destruction of tissue as is involved in the idea of electrolysis, that I grounded my opinion as to the baselessness of the whole theory. There is no evidence whatever that even the function—to say nothing of the tissues themselves, as, for instance, of the bladder—has been disturbed by the passing of the galvanic current through that viscus.

In the course of conversation on this subject I have been gravely told that when the galvanic current is passed through a fibroid tumour removed from the body the effect is to change the constitution of the mass so that ultimately there remains only the fibrous framework. Does any one for a moment imagine that the action of the current on the living tissues is the same as that exerted on dead organic matter? Dr. Parsons has told us that that is a delusion, that the statement is not correct even as to dead tissue, that the through action of the current—if there be any at all—can only be very trifling in degree, and that its appreciable action is confined to a very limited area in the immediate neighbourhood of the poles. As far as I understand him, Dr. Parsons even denied the existence of any great or essential difference in the effects produced at the two poles, and in this he is in direct conflict with Apostoli. It appears to be admitted or accepted by all that an acid reaction is produced at the one pole and an alkaline at the other. Further than this Dr. Parsons does not go. The question was asked the other night, What is the nature of the acid thus formed? That is immaterial if the fact itself can be established. A more important question

presents itself to my mind. What is the effect of that acid? There is the stumbling block. It appears to me that conclusions have been hastily drawn which are not warranted by the very few facts obtained. I care nothing about the number of milliampères said to have been reached. I care nothing about this matter and perhaps know as much, and I leave the experts to settle their differences amongst themselves. Nor do I give any heed to the question whether the external electrode should consist of naked or covered potters' clay, of layers of moist leather, of spongio-piline, or any other substance. All these questions are outside the subject in which we are interested, and are, as it were, only the hem of the garment.

On the other hand, I admitted the local caustic action of the current. I admitted that hæmorrhage might be arrested in cases of so-called granular degeneration of the endometrium—so common in association with fibroid tumours—as the result of the destruction of those granulations by that caustic action. I am prepared to admit that even mucous polypi, such as was to be seen in Dr. Heywood Smith's specimen, and is represented in a more pronounced degree in the illustration which I have passed round, may be destroyed. But I denied, and I am not now prepared to admit, any superiority in this method over others that I named. I will even go further and say that in a case such as is depicted in the drawing I have sent round, it would be much safer to remove the whole of the disease, I mean the mucous polypi, at one sitting, by means of the curette than by the galvanic chemico caustic process frequently repeated. Certainly, it would be more expeditious.

Again, I admitted the production of muscular contractions of the uterus under the influence of the continuous current, and it seems to be more pronounced under the interrupted. Dr. Parsons has told us that this contraction takes place at the interruption of the continuous current, and hence we can readily understand how the contractions are, as is affirmed, more marked under the faradic or interrupted current.

Hence, also, we can accept as matter of fact, the statements of those who tell us that tumours are seen to become appreciably smaller under the influence of the current. When we recall the appearance of Dr. R. T. Smith's specimen, with its enormously hypertrophied uterine walls, we can accept the statement as at least very probable from the nature of the tissues, and even as the expression of a fact on the testimony of the observer. But Dr. Smith told us that although this contraction was even observed by him, it proved to be of a very temporary character, that it failed to arrest the hæmorrhage or permanently diminish the size of the tumour, and that ultimately he was compelled to resort to the last extremity by removing the whole mass. Now it appears to me that this was a most suitable case for the galvanic method, with the powerful muscular envelope by means of which to cut off the blood supply through tetanic spasm, and the encapsuled arrangement of the tumour with its feeble vascular connections, a condition I have frequently observed. Hence its failure in this instance is only the more conspicuous. Nor was there any evidence that the tumour had undergone any change in the way of electrolysis. It is inconceivable that the current could induce any contractions in the tumour itself, for it did not possess the necessary elements. It was an example of the hard nodular tumour in which the fibrous element predominated. But assuming, or admitting as a fact, this muscular contraction, what else is it than that which we seek to produce by the administration of the ergot of rye? We have had in Dr. Smith's case an example of this action by means of the galvanic current. Let me give you one illustrating the action of the ergot of rye. I select this one not because it is the most striking though a very striking example, but because it is the most recent. On the 1st February last, I visited a lady, about forty-four years old, who came from the north of England to consult me on account of severe menorrhagia. Her appearance at once denoted severe hæmorrhage in her blanched condition. This was confirmed by a well marked hæmic murmur and by a feeble and rapid

pulse of over 120, and was explained by a history of the great loss of blood she had been undergoing. The periods were excessive both in quantity and duration, extending over ten days, and with about the same interval. She had, moreover, a more or less constant discharge, of a brownish character, in the intervals. All this had been going on for several months unchecked by the treatment to which she had been subjected, I omit what I said to the patient about the removal of the appendages with her objections thereto, I content myself with saying that the uterus was as large as a small cocoanut from the presence of some small fibroids to which the menorrhagia was attributable, and I come to the main fact that I gave her twenty minims of the liquid extract of ergot along with ten minims of the muriated tincture of iron three times a day. The effect of this was to remove the blanched appearance of the patient, to diminish almost to extinction the *bruit de diable*, to bring down the pulse to something between 70 and 80, to arrest the intercurrent discharge, to protract the next interval to over four weeks, and to reduce the flow to a much more moderate quantity and limited in its duration to about six days. And the total result was that the patient had improved so much that she was able to return home on the 14th of this month. All this was accomplished in six weeks. Can the advocates of the electric treatment show anything better than that? or even so good? And this is not a solitary example. It would be easy to multiply cases. One especially I might refer to in the instance of the wife of a medical man in whose case the question of the electric treatment was actually discussed. When I last saw this patient, some weeks ago, she called upon me for the purpose of telling me that she was quite well. A statement which her robust appearance confirmed. And yet she was a diabetic. But I will not weary you with further details of this kind.

I now come to a very important fact, viz., that up to a recent date the advocates of this method were unable to point to a single instance, in which the tumour had disappeared,

and I know not whether they can do so even now. At the meeting of the American Gynæcological Society held in New York, in September last, I heard the question pointedly put to Dr. Apostoli, "Have you ever seen a tumour disappear under your treatment? The answer was "I have not." All he could claim was an amelioration of symptoms. Up to that date he had not practised his new method, but had relied on that electrolytic action which I have shown has not been proved.

Now, I think you will agree with me that it is a sure sign of a failing cause when one shifts his ground in self-defence. This is what Apostoli and his apostles have done. They have recognised the inefficiency of the former method and they have been obliged to have recourse to another method which is of a totally different character, they have been compelled, in military phraseology, to take up a fresh position. You know what that usually means. What, then, is this new method? It is that of thrusting one of the electrodes into the substance of the tumour itself. But still they cling to their theory of electrolytic action. I can see nothing in it, and herein I am supported by Dr. Parsons. I say I can see nothing in it, but a local caustic action with the necessary destruction of the integrity of the tumour. This at once reminds me of the late Dr: Greenhalgh's method of thrusting a red hot iron, or actual cautery, into the substance of a fibroid tumour through the vagina. This was done by Dr. Greehalgh in several instances, and I believe by some others, but the results were so unsatisfactory, and so largely though not uniformly disastrous, that the method was soon consigned to the limbo of good intentions ending in bad actions. That method is now well nigh forgotten, as it well deserved to be. Now this was only a major degree of what is now practised. There is no essential difference in the principle of the two methods. They both seek to bring about the destruction of the integrity of the tumour, and the practice may be said to be founded on what is now a well known fact, viz., that if you can once start the degenerative process in a fibroid tumour,

either the active and dangerous process of sloughing or the more gradual and innocent process of absorption, that process will go on till the tumour is ultimately got rid of. I admit that this can be done, and that it has been done. But who can control the process and keep it within the bounds of safety? Who can direct it into the beneficent channel of simple absorption, or away from the dangerous channel of cystiform degeneration, or the still more dangerous one of sloughing? I admit the possibility of getting rid of tumours in this way, but I deny the safety of the method claimed for it by its advocates, and I call to witness Dr. Holland's cases and others with which rumour is busy.

There is another very important point. We are told that under this treatment tumours get smaller, but do not disappear. Does not this strike you as a very remarkable statement, after what I have just been saying? I have called your attention to the well-known fact that if you once start the degenerative process in a fibroid tumour, that process does not stop till it is complete, and not a vestige of the tumour remains. Of course, I assume that the patient survives. But it is the tumour—properly so called—that gets smaller? There is no evidence to prove that this is so. I believe—and all the evidence goes to show—that the change takes place in the hypertrophied walls of the uterus, and I have this belief on the evidence furnished by a case which came under my observation seven years ago. I removed the appendages of a patient æt. thirty-nine, who was the subject of an intra-mural fibroid, accompanied with severe menorrhagia. For more than a week after the operation, there was very free metrostaxis. Within three weeks the most marked change had taken place in the size of the mass, for it had already diminished to nearly one half; but within two months the mass was as large as ever. In the meantime menstruation returned, at first to a moderate amount, but it was not long ere it regained its former proportions, and the result was that after a lapse of three years, I was compelled to perform supra-vaginal hysterectomy. The explanation of this strange freak was found in the great hyper-

trophy of the uterine walls, which admitted of such a marked reduction of the mass under the influence of powerful muscular contractions, with a temporarily diminished supply of blood. The conditions were very similar to those seen in Dr. R. T. Smith's specimen. My case, then, was an example of failure of the operation of removing the appendages, because, as I now think, it was not a suitable one for the operation. His was an example of failure of the galvanic current, in a case apparently suitable, and without even the fleeting promise of success which mine afforded.

But, further, when we compare the general results of the two methods, we find a marked difference. The electricians can only claim a diminution of the size of the tumour, of a very problematical character. We surgeons, claim a total disappearance. In my valedictory address, I quoted my first case in which the tumour wholly disappeared after the removal of only one ovary. In March last I removed the appendages in two cases. In the one the patient was very much blanched, and had suffered much of many physicians for ten weary years. The uterus, with its multiple fibroids, filled the pelvis from side to side, and the left tube presented the appearance of a piece of distended intestine. In the other I had watched the gradual growth of the tumour through a period of about eighteen months, from the size of a pigeon's egg to that of a large orange, or swan's egg, together with the gradual increase of menstruation and impairment of health, in spite of treatment. In both cases menstruation was completely arrested by the operation, and they both recovered their health. I saw these two patients, the one on the 23rd, and the other on the 24th January last. In both, the tumours had almost entirely disappeared. Another patient, from whom I removed the appendages together with an outgrowth from the fundus, by incision of the capsule and enucleation, but leaving several small fibroids in the body of the uterus, presented herself on the 14th of this month, after a lapse of twenty and a-half months. In this case I found that the tumours had absolutely disappeared, while the uterus itself had passed into the stage of complete or senile atrophy.

Here, then, we have indisputable evidence of the most positive kind as to the value of this method of treatment, and the cases I have quoted go to prove what I have stated, viz., that if you once start the degenerative process in a fibroid tumour, that process goes on to complete disappearance of the tumour. On the other hand, there is no evidence of anything of this kind taking place in those cases in which the tumour is said to become smaller under the galvanic treatment, *without puncture of the tumour itself.*

There is another matter that should not be overlooked. In a recently published letter, Skene Keith stated that he and his father had made as many as 2,567 applications of the galvanic treatment for fibroid and other diseases of the uterus, up to the first week of this month. This gives, with something between eighty and ninety cases, an average of thirty applications for each case. But he does not tell us that he has caused the disappearance of a single tumour, and so far appearances are not very brilliant. However, he promises us a report on this subject, which I shall await with interest.

But, sir, unfortunately there is a moral side to this question. You know that this mode of treatment has already become the fashion of the day, and experience tells you that as such, it is only too apt to degenerate into quackery,—in this instance a quackery of the very worst kind, for it is one for which the profession is responsible. One cannot help feeling that it has even now assumed this character when we hear of one practitioner of some eminence charging fifteen guineas for the first application, and I know not how much besides. And when we read the list of the various and opposite diseases for which it is recommended—such as subinvolution and superinvolution, amenorrhœa and menorrhagia, and so on—we are forcibly reminded of the vaunted virtues of some quack medicines, such as Holloway's or Cockle's, Norton's Camomile, or Widow Welch's Windpills.

So far, then, as I am concerned, the case stands thus. I have no confidence in the value of this method; I fail to find evidence sufficient to convince me of its utility, at least to the

extent claimed for it by its advocates. While I stand on one side I am content to allow others to follow it up so long as they do so in a scientific spirit, free from mercenary considerations, and when they shall have failed I shall be prepared to take the patients off their hands for the purpose of performing hysterectomy or removing the appendages *in suitable cases*—provided the chances of success have not been imperilled—for I believe these operations will not be done away with, nor we surgeons find that, like Othello, our "occupation's gone."

Dr. ROUTH said he agreed that quackery was a thing to be avoided in connection with any method of treatment. Now, it might be true that no actual chemical disintegration took place, except in the immediate neighbourhood of the electrodes. But it was not true that subsequent absorption beyond did not occur. All that was needed was a beginning of the disintegration of the new tissue—and then, because (perhaps among other reasons of the lower vitality of the new growth), once the process of absorption had begun, it necessarily extended to the whole tumour. Therefore it was not necessary to destroy the whole tumour at once. He had already narrated a case in which a tumour, partly intra-uterine and partly mural, as big as his head, was absorbed nearly entirely in four days, when he had removed a portion with the ecraseur. This had been verified by the post mortem, as owing to insufficient use of antiseptics in days gone by, the patient had succumbed. He had seen one or two cases operated upon by Dr. Greenhalgh with the red hot iron, passed through the vagina into the tumour, and these were not followed by the fatal results mentioned by Dr. Bantock. The iron was at first applied carefully and *superficially*, till adhesion had taken place between the internal opposite portions of Douglas's space, and then, after three or four days the red hot iron was pushed deeper, and the tumour wounded. In this way no poisoning occurred in the peritoneum, and absorption once set up proceeded rapidly to a cure. Mr. Baker Brown had adopted a plan of using a sort of large corkscrew gimblet, which he passed through the tumour, and then, filling up the hole thus made

with cotton, inflammation was set up, and absorption followed. Mr. Brown had not, however, adopted Dr. Greenhalgh's preliminary step to cause adhesion between the opposed surfaces of Douglas's space. He had thus some very unfortunate results of fatal peritonitis; but even he, by this plan, obtained some considerable success. In those days they knew very little of antisepsis, and that was why some cases went wrong. He maintained that in quoting those cases they were speaking of a state of things which no longer obtained, and therefore had no exact relation to the subject they were discussing. He asked Dr. Bantock how he knew that the cases he treated so successfully with ergot, were fibroids at all, and not merely cases of uninvolution, or cases, it might be, of intra-uterine tumours. He (Dr. Routh) had obtained very good results, specially in uninvoluted cases with the electrical current. But it seemed to him that Dr. Bantock was arguing as if in every case of uterine tumour electricity was to be used. But surely no man of any knowledge of uterine tumours or enlargements would think of advocating electrolysis for polypi, and he had never heard of removing interstitial fibroids with the curette. Referring to the reproach made against the electrical treatment that it did not remove the whole of the tumour, he said that it was true that this could only be done by hysterectomy, but then only at the risk of the patient's life, and certainly by completely unsexing her, and again there were many cases in which, even after abdominal section, it was found impossible to remove the tumour. Such cases might be called explorative operations to cover the failures, but failures they were, and immensely increased the chances of a fatal result. Then it was possible to do a large amount of good without destroying the entire tumour. If its size could be greatly diminished and hæmorrhage arrested, and strength improved, and sex and health preserved, was this not giving a woman very great comfort and happiness. But Dr. Bantock had another operation in reserve, which he believed far superior to electricity, not only in arresting hæmorrhage, but also in leading to the entire absorption and disappearance of the tumour.

This was removal of the appendages, but they had it on the authority of Mr. Lawson Tait that in some cases this operation failed. True, he said it was because he had not in these instances cut away enough of the tubes. But this arrest of hæmorrhage could be equally brought about by electrolysis, and this without danger to life, or unsexing the woman. *Not* if a *thin* sound was used which could only touch one side of the uterine mucous membrane, but by a good broad one, made of platinum, and conveying the positive or hæmostatic current. Dr. Routh then proceeded to state that it must be admitted that electrolysis would not cure any and every case of fibroids, some were more amenable to its action than others. In his own experience, fibroids of *recent* formation readily yielded and underwent resolution. Fibroids of an older date, perhaps of several years, resisted electricity most, but even these sometimes absorbed away beyond expectation. Fibroids involving the whole organ, like the enlargement from subinvolution, were also well treated by electrolysis. Nobody would think of treating extra-uterine fibroids in this way, nor intra-uterine tumours. Interstitial fibroids were those most likely to be benefited. But the diagnosis should be accurately made. It was necessary to distinguish between the cases that would, and those that would not, be likely to derive benefit from this particular treatment. For instance, Mr. Reeve's fibroid case, was one, perhaps, where diagnosis during life was impossible, but the post-mortem preparation before them proving it was extra-uterine and strangulated within the pelvis, pointed out that it was a case for abdominal section and not electricity at all, especially as Dr. Greenhalgh's preliminary preparative operation had also been omitted in the case. Certainly in cases of subinvolution he differed from Dr. Bantock, who said that they could not reduce them (Dr. Bantock: "I said nothing of the kind!") He claimed that, on the contrary, the subinvoluted uterus rapidly diminished in size. He saw nothing ridiculous in the fact that the treatment was recommended in such different disorders as amenorrhœa and menorrhagia. This opinion was founded on the supposition that both

electrodes acted in the same manner; but the reverse was the case. The positive pole was hæmostatic. The negative would often induce the menses in cases where they had been absent for months, and these two opposite results were incontrovertibly proved. Lastly, there was one source of fallacy in Dr. Bantock's alleged success in his cases, where he removed the tubes or had given ergot. He had omitted to give their ages, and so they were left in doubt as to how much of the success was due to the menopause, and how much to the treatment.

Dr. HEYWOOD SMITH said that he little expected, when he brought the tumour before the Society three months ago, that it would be the text for a discussion on treatment by electricity. He said that they must not allow themselves to be carried away by their feelings, either to praise it unduly or to cry it down. He came there to learn from those who had more experience of the treatment, and looked to them for guidance in applying the treatment to patients. Referring to the experiments related by Dr. Parsons, he regretted that sections had not been produced for examination, seeing that the whole question turned upon the effect produced by the current. They wanted to know whether the electrode acted as a destructor analogous to the cautery, and whether the tumour could be shelled out with the same risk as in other methods of enucleation, or whether there was decomposition or disintegration leading to absorption. He said that fibroids were exogenous and not endogenous growths, starting from a central point which was the original degeneration of tissue. They were therefore buried in the contractile tissue of the uterus, and it was to the external ring that they had to look for the source of absorption. He asked if the electrodes were introduced into the centre of the mass, how absorption was to take place. They wanted it demonstrated to them by measurements, how the tumour actually disappeared and in what time, and accompanied, if possible, by sections. His object was to put the discussion in a definite form, for so far he did not think that any positive, reliable information had been forthcoming as to how electrolysis acted.

Dr. BURFORD read the notes of the case of a single woman, 45 years of age.

S. S., aged 41, had menstruated since 14, periods fairly regular, loss always scant. Admitted into hospital on December 15, with history of pain in hypogastrium and back for fifteen months, also sickness, frequent of late. Swelling in abdomen noticed eight months ago: pain worse in region of swelling.

Sound passed 3½ inches backward, tumour, solid uterine and occupying hypogastrium. Electrolysis commenced on December 22nd, and continued for four sittings up to January 9th, when the tumour became less pelvic and more abdominal; currents hitherto averaging 60-80 ma. From January 12th to January 30th four further sittings for electrolysis were concluded, with current strengths from 80 to 110 ma. After January 30th electrolysis was discontinued, as no perceptible difference in the fibroid was apparent, and the application of the current was becoming more and more intolerable by the patient, vomiting and much pelvic pain resulting from each electrolysis.

During February patient had two attacks of violent sickness with increased pain in abdomen, and early in March, a third one of great severity, lasting nearly a week, and evidently accompanied by local peritonitis. Her condition becoming steadily worse, Mr. Reeves performed hysterectomy on March 22nd. The uterus showed multiple fibroids, specially a very large sub-peritoneal one, with an attenuated but twisted pedicle. This tumour evidenced recent retrograde changes, being dark and extremely congested on section. It was impacted in the pelvis, being drawn out with difficulty, and recent acute peritonitis involving the intestines in its locality was evident. Both ovaries and adjacent portions of tubes were removed at same time.

Mr. REEVES said that this case had been intended to suggest a new procedure in operating, but he would leave that point to a future occasion. He said they could not always be clear as to the nature of a fibroid tumour which might turn

out to be sub-serous. He thought that the electrical treatment, when unsuccessful, might lead to the loss of valuable time. In that case he had removed the tumour after two attacks of peritonitis, and he thought the patient might have recovered had he operated in the first instance. The tumour in question was pedunculated and impacted in the pelvis. The pedicle was twisted. He had no jealousy in the matter. He was quite prepared to give a fair trial to any new method of treatment. It ought not to be condemned off hand, and they certainly ought not to attempt to fill their pockets over a thing of which they were not sure. They could not forget that hysterectomy was a very dangerous operation, and for that reason they ought to give the electrical treatment fair play.

Dr. IMLACH said that on the table before them were three specimens which illustrated the three methods of dealing with myoma of the uterus. One was an enormous multiple myoma removed by hysterectomy. The second was a myoma treated by electrolysis with a fatal result; it was engorged with blood and resembled spleen pulp, he had never before seen such a condition and doubted if any member had. The third specimen consisted in a pair of fallopian tubes distended with pus, which he had removed from a patient with a myoma rising as high as the umbilicus and filling the lower abdomen. Surely it would be dangerous to treat such a case by electrolysis, and tubal disease was a common complication of bleeding myoma confined within the pelvic cavity. The positive galvanic pole was of excellent service in closing a sinus, but it would not produce more than temporary obliteration of the uterine cavity. Of the effect of frequent electro-puncture with the negative pole he had as yet little experience. It did not, and was not intended to cause muscular contraction, and its action at a distance had received no explanation.

Dr. FANCOURT BARNES said he had had two cases in his wards at Chelsea treated by this method. In the first case there was a fibroid tumour reaching nearly up to the umbilicus. After many weeks of suffering, during part of which the

patient was at death's door, the tumour disappeared and she left the hospital. The second case was one which had been to him two years previously with a fibroid reaching nearly to the umbilicus. She was then told that nothing could be done as she was not suffering very much at the time. About a month ago she returned to the hospital saying she wished to be treated by the "new cure." Her wish was acceded to and the treatment was at once begun. After a few applications she became very ill and was in great pain and had left the hospital a day or two since, against his wish. So far as he could make out an abscess was forming in her left groin and she declined further treatment, but he had to state that the tumour was much—a third, smaller. If he compared the results of the removal of the appendages where a tumour at least as large had disappeared in six weeks without a rise of temperature, he should be disposed to continue this method of treatment in preference to the other. Dr. Routh had asked whether the uterus was injected after operation, with a view of preventing septic changes. Although he was told that the septic symptoms in the first case would not have happened if the method had been properly carried out, he could not, for his own part, understand how antiseptic precautions, in the strict sense of the term, could be used.

Dr. AVELING said that the cases brought before the Society, by Dr. Fancourt Barnes, were quite useless, and had better have been left to a later stage, no details having been supplied as to strength of current, &c. He observed that the opposition to the treatment came from those gentlemen who had paid especial attention to abdominal sections, and their remarks, generally speaking, were not based upon any practical knowledge of the method, but merely upon what they had heard and read. They said it was dangerous, but he maintained that it was only true when employed by ignorant or impatient people. The operator must possess some knowledge of gynæcology and of electricity, at any rate enough to enable him to use galvano-puncture safely. He deprecated the tone of many of the arguments used against the system,

such as calling these instruments toys, or, as Dr. Bantock had done, imputing unworthy motives to those who were trying electricity. Dr. Bantock said, too, that it was a means of attaining notoriety, but for his own part he denied the justice of such a remark. It was not by using abuse and calling them quacks that they would aid in settling the question. In favour of the system they had the testimony of several reliable medical men. There were Englemann and Cutter in America, Apostoli in France, and Keith in Edinburgh—representative men, men of position, whose opinions were bound to command attention. He asked why Dr. Bantock and others performed hysterectomy—was it not because patients came to them with urgent symptoms of pain, hæmorrhage and bulk of tumour? It was just these three things that electricity would relieve, and if a patient could be thus symptomatically cured, was it not worth trying, instead of making the patient run the risk of her life? He quoted Keith's remarks on the subject, and Keith could not be called a coward, nor did he shirk difficult cases. Keith said, "I say deliberately that hysterectomy is an operation that has done more harm than good, and its mortality is out of all proportion to the benefits received from the few. So strongly do I now feel on the subject that I would consider myself guilty of a criminal act, were I to advise my patient to run the risk of her life before giving a fair trial to this treatment, even if I were sure the mortality would not be greater than that which hysterectomy has given me in my private cases—under four per cent." Turning to the question of electrolysis, they trod on theoretical ground, but it was after all a matter of experience. If theory and practice did not accord, so much the worse for the theory. He did not agree that there was no electrolytic action between the poles. It would be contravening one of the laws laid down by Faraday that the action of the electrical current was the same at every point of that current. They had, first of all, the caustic action of the electrode, there was also a splitting up of the tissue by the formation of the hydrogen. Finally, there was the true inter-polar action, the migration of the ions from one

pole to another. That action was unmistakeable, and he thought that experiments to prove the contrary were and must be failures.

Dr. MANSELL MOULLIN had anticipated that Dr. Parsons would have been prepared with a long array of cases to prove the benefit that was to be derived from the treatment. But on the contrary, nothing could demonstrate more clearly the futility of the whole proceeding than the most masterly paper he had read before the Society at the previous meeting.

He did not think it was generally understood that electrolysis meant destruction. The word itself had that signification. It was impossible for electrolysis to take place in living tissue. There was no such thing as a modified electrolytic action at a distance from and between the poles. Supposing, for the sake of argument, that this action did take place, how was it that the current picked out the morbid tissues only. Dr. Parson's had advanced a theory that it was in consequence of the lower vitality and smaller recuperative power of the morbid cell growth which was influenced in some way by the current. It was impossible to accept such a theory, unsupported as it was, by any evidence whatever. Electrolysis took place at the surface of the poles only, and the amount of tissue which could be thus destroyed with a current such as the patient could endure must certainly be infinitessimal. It was a matter of experience that the tumour, under the influence of the current, became very hard and diminished in size for some hours. This could be due only to the contraction of the muscular elements in the uterus, in the capsule of the tumour and in the tumour itself. Dr. Parsons' experiment on the web of the frog's foot, showing that the contractions took place only at the make and break of the current did not prove much. All muscular tissue did not contract alike. The *latent* period, the time that elapsed before the muscle contracted after receiving the shock, was in lowly organised muscle of extraordinary length, and the persistence of the contraction in such cases proportionately long. Even the striped fibres in a tortoise would remain contracted for

nearly an hour. In unstriped muscular fibre the contraction would persist for a much longer period than that. There was nothing surprising in the fact that the ill-formed, ill-developed muscle cells in a uterine fibroid should remain contracted for many hours. Although treatment by electricity had been actively taken up in many quarters, not a single instance had been brought before the Society in which any permanent benefit had been the result. On the contrary, there were several cases now before them, exemplifying the dangers which might arise from the treatment. One case only had had an apparently successful issue; a case reported in full in the last number of the Society's transactions. A large submucous fibroid underwent necrosis as a result of the treatment, and was partially extruded by the tonic contractions of the uterus; enucleation accomplished the rest, and the patient had made a good recovery. A similar case in the hands of the same operator had, since then, not been equally successful. At the previous meeting Dr. R. T. Smith had exhibited a soft interstitial fibroid accompanied by hæmorrhage, which had not been benefited by the treatment. Hysterectomy had been subsequently performed with good results. A fourth case had just been exhibited by Mr. Reeves, in which the tumour was found to be subserous and pediculated, and in a sloughing condition. In two out of these four cases sloughing of the tumour had occurred. He had drawn attention to the danger arising from this source on a previous occasion, but had not anticipated seeing the truth of his remarks exemplified so soon. He thought they might safely draw the conclusions from a comparison of these four cases, that the result was not induced by what is known as electrolysis. Secondly, these cases proved that the electric battery was by no means a toy, but that it might under certain circumstances cause great harm, and lastly, that having regard to the difficulty of diagnosis, it being in many cases impossible to define the character and position of the fibroid, the treatment was essentially empirical.

Dr. BURFORD rose to say that some protest should be entered against the indiscriminate insertion of an unprotected

metal rod, with currents of high intensity, inside the uterus. When they considered what the effect would be upon the hard, leathery epidermis, that is to say, sloughing, hyperæmia, &c., it was not altogether unfair to anticipate that something of the kind would take place inside the uterus. He had seen three cases of septicæmia in which the patients nearly died, evidently due to the retention of secretions and shreds of tissue broken down, in consequence of the galvano-caustic action of the electrode. Only a fortnight before he witnessed the expulsion of the entire cast of the lining mucous membrane of the uterus, which had been in process of discharge for some days. He also saw a detached slough of mucous membrane about the size of a shilling, from the cervical canal evidently touched by the pole. Lastly, he had on one occasion had the misfortune to cause a slough half-an-inch deep where the electrode had been applied, and this was around the portio vaginalis, with a current strength of 75 ma.

Some discussion took place as to the propriety of continuing or adjourning the discussion. Taking the sense of the Society, the PRESIDENT called upon Dr. Parsons to reply.

Dr. PARSONS, in reply, challenged Dr. Aveling to prove his assertion as to an electrical action between the poles. He quoted an experiment by Faraday with three glasses, but he could find no evidence of electrolysis. The iodine passed right through the central glass containing solution of starch without discolouring it. Dr. Bantock had spoken of results, but time alone could furnish them with these. He said that because he (Dr. Parsons) had proved that there was no electrolysis between the poles, therefore there was no beneficial action ; but although there was no electrolysis, a transport of elements took place. It stood to reason that when this took place through living tissues, it would have some effect upon the vitality of its cells. Dr. Bantock suggested that there would be some effect upon the bladder. In some cases of his the bladder was so affected, but only tem-

porarily. That was explained upon the hypothesis that normal tissues were better able to recuperate than those of tumours. He objected to any argument being based upon the alleged passage of a current of 800 milliampéres, for he did not believe it was possible, in which view he was seconded by Dr. Steavenson. He had not the temerity to accuse surgeons of being afraid lest they should cut them out of a lot of their practice. With respect to amenorrhœa Dr. Bantock had spoken rather slightingly. He hoped to publish some cases shortly; in the meantime he could say that he had been successful with cases which had resisted the usual treatment. A current of 250 milliampères would soon produce the desired effect. He had had a series of cases in which it had proved uniformly successful. His own practice was certainly not to pass a needle into the centre of the tumour, but into the periphery where the blood supply was largest, and where absorption could take place. The case brought forward by Mr. Reeves had no practical application. The current was not strong enough nor applied often enough, nothing under 200 milliampères being of much use. (Mr. Reeves interrupted the speaker to inform him that even the current used was followed by so much pain and suffering that they were afraid to go further). He had had a similar case of extreme susceptibility, but they were rare. Dr. Imlach said that he thought many cases of myoma were associated with pyo-salpinx, but he did not think that this would be agreed to. (Dr. Imlach pointed out that his remarks only applied to tumours impacted within the pelvis). He used the positive pole when there was hæmorrhage, but only then. In the case alluded to by Dr. Fancourt Barnes, in which he said he thought it had given rise to an abscess, the temperature never rose above 100.5° F. The patient was a neurotic and anæmic woman, and had not had any application of electricity for some time before leaving, on account of menstruation. She was well enough, when she left, to take a long railway journey. They always had a certain amount of exhaustion. Dr. Aveling had spoken of tissues being broken up by the hydrogen gas, but his own experience of the action

of hydrogen went against that view. He observed that if a powerful battery were used without a rheostat, a muscular contraction might be caused in passing from one strength to another, and he did not think for a moment that the contraction of the tumours was due to the contraction of their muscular fibres. It was not proved, at any rate.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, APRIL 11, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 25 Fellows, 2 Visitors.

The following were elected Fellows of the Society:—Dr. S. Dickey, Dr. A. G. Bateman.

The following were proposed for election:—Dr. John James Pitcairn, Uckfield, Dr. John Moir, London.

Books were presented to the library by Dr. FANCOURT BARNES.

A Case in which Ruptured Tubal Pregnancy occurred twice in the same Patient. By LAWSON TAIT, F.R.C.S. Professor of Gynæcology in Queen's College, Birmingham.

ON the 10th of May, 1885, Mrs. E. R., age 25, was sent to me by Mr. W. P. Whitcombe, Victoria Road, Aston, suffering from urgent abdominal symptoms.

The history was to the effect that she had been ailing from a short time before Christmas, but had gone on to now. She thought it was due to pregnancy. Menstruation had been suspended for three months. In April she had a period, and again early in May, and at the latter time she complained of violent pains in the lower abdomen, and on the 9th she had an attack of faintness with vomiting, the pain being referred to the lower abdomen. When I saw her she looked extremely ill and anæmic. A large ill-defined mass existed on the right side of the uterus, intimately associated with the organ and the roof of the pelvis was fixed. There was no difficulty in

diagnosing the case to be one of ruptured tubal pregnancy I opened the abdomen on the 11th and found the belly full of blood-clots and bloody serum. I removed the right fallopian tube, which was occupied by a pregnancy of about the third month, and in its walls a large rent had occurred through which the fœtus and placenta were partly protruding. Some points of bleeding of the peritoneal surface of the intestines required touching with perchloride of iron. I inserted a drainage tube and the patient made an easy and rapid recovery. The case is published in a short paper on Ruptured Tubal Pregnancy in the *British Medical Journal*, December 19th, 1885.

About eighteen months after this operation she was confined of a child at the full term, being attended by a midwife and there being nothing remarkable about the labour.

About fifteen months after this confinement she again became pregnant, and her husband states that during the period of this pregnancy, which she thought had turned four months, she had no symptoms of note but only complained at intervals of slight pains in the abdomen, but not sufficiently severe to induce her to call in medical assistance. The only point on which he lays any stress was that she stated that she felt the child very plainly, more so, it seemed to her, than at the same period in any previous pregnancy. Dr. Whitcombe was sent for to see her in the forenoon of the 9th of March, but he being from home the patient was seen by his assistant shortly before one o'clock on that day.

She was lying fully dressed on the bed, her knees drawn up, and was complaining of great pain in the hypogastrium. She was extremely pale and almost pulseless, and had some vomiting. Mr. Hall was informed that only half-an-hour before she had been cleaning her fireplace, and in the act of stooping was seized with acute pain and a feeling of faintness. Stimulants were at once administered, and every effort made to restore her without any avail, and the patient died shortly after five o'clock, clearly from internal hæmorrhage. Mr. Whitcombe made a post-mortem, and has been kind

enough to give me the following particulars: He found the abdomen full of blood clots and fluid blood. A large clot was adherent to a portion of the placenta, which protruded from the uterine wall, and when this clot was separated it had a quantity of villous placental tissue adherent to it.

All the organs were very anæmic, and there could be no doubt that the hæmorrhage was the cause of death. Mr. Whitcombe was good enough to bring me the preparation, and aided by my assistant, Mr. Leichelmann, I am enabled to give the following report of the appearances presented.

There can be no doubt that the specimen represents an interstitial tubal pregnancy of the left side. The cavity in which the fœtus is situated is separated from the true uterine cavity by a strong septum of uterine tissue springing from each side of the uterine walls. The under surface of this septum and the rest of the uterine cavity is lined by hypertrophied mucous membrane (decidua). The stump of the right Fallopian tube is attached to what appears to be the lower angle of the uterus, but which is really the much displaced upper angle. This displacement, however, is only apparent and arises from the enormous development of the left cornu of the uterus. A fine probe may be passed from the true uterine cavity into this stump. The left Fallopian tube, on the contrary, communicates with the cavity in which the fœtus and placenta lie, and the rupture has taken place in the upper and back part of the left uterine cornu. In this case we have the almost incredibly strange instance of a woman suffering twice from tubal pregnancy, with the still stranger fact of her having a normal pregnancy between the two occurrences. From the first of her disasters she was saved by prompt surgical interference, and she might even have been saved the second time, but there can be no doubt that the poor woman's doom was sealed before medical assistance reached her, and there was no time then to effect the interference which was necessary. All the appearances of the preparation point to the fact that the woman's estimate of the period of her pregnancy was correct, and we have therefore an

indication that the interstitial form of pregnancy does, as we might have expected would be the case, take a longer time to arrive at the period of primary rupture than do those cases in which the pregnancy occupies the free part of the tube. In this latter we have no evidence as yet of any instance going beyond the twelfth or thirteenth week before primary rupture. It may be noticed here I am introducing a new phrase in the term "primary rupture"; and I do so because I am becoming convinced that unless we make such a distinction as I am about to indicate, we shall perpetuate some of the elements of confusion which exist about this interesting displacement. It is perfectly clear that in all cases of tubal pregnancy when the ovum is growing the tube must burst, and that it bursts in two directions, either into the peritoneal cavity or into the cavity of the broad ligament. In the free part of the tube this rupture takes place, as I have said, about the twelfth or thirteenth week.

In the interstitial form, the case before us shews that the rupture may be deferred to a later date. The primary rupture into the peritoneal cavity seems to be almost necessarily fatal alike to mother and child; but when the rupture occurs into the cavity of the broad ligament it may be followed by a continuance of the development of the child, and these only are the cases in which the child is permitted to reach a viable period. In a recent number of the *American* ——— *Journal* a case is reported by Dr. ———, as being a case in which no rupture had taken place. But the description given makes it perfectly certain that this was a case where the rupture had taken place into the cavity of the broad ligament.

In this group of cases a secondary rupture at any period is possible, and therefore it is that the adoption of the terms, used strictly to indicate relative dates, will become very useful. This secondary rupture was most clearly demonstrated in Nonat's celebrated case as given by Bernutz, a case which on account of the occurrence of this secondary rupture is full of the greatest interest (see my Ingleby lectures, 1887). This secondary rupture probably also explains such an occurrence as that in Jessop's case.

Connected with the case which I am now discussing there are many important points worth noticing, some of which are new, and others though quite familiar, are worth noticing on account of the confusion which still seems to exist in the mind of the most recent writers on this subject.

The patient was rather an intelligent woman for her class, and, having undergone the terrible experience involving her first operation had obtained a fairly full knowledge of the nature of the accident and its consequences. Yet with this dreadful experience, and the knowledge of it, when the same condition recurred, so little did she suffer that up to the moment of rupture (knowing she was pregnant) she never thought of asking for medical assistance, and this was the case also in her first tubal pregnancy. There were no symptoms whatever to draw attention to her state until the rupture occurred, indeed there were no symptoms even calling for examination. The strangest thing of all to me is, that in the enormous experience I have now had of tubal pregnancy, I have never but once been called upon even to make an examination until the rupture had occurred, and in that case there was neither history nor symptoms which enabled me to do more than determine that there was tubal occlusion.

Not indeed until the rupture occurred, and the abdomen was opened, was a diagnosis possible. Under these circumstances I think I may be excused, maintaining a somewhat sceptical attitude concerning the correctness of the diagnoses of those gentlemen who speak so confidently of making certain diagnoses in cases of tubal pregnancy before the period of rupture, and who speak with equal confidence of curing the cases by a puncture either simple, medicated or electrolytic. Upon these points I have been much misrepresented, and am glad to have an opportunity of clearly stating my views, but I wish to say that after the period of rupture a diagnosis can be, and has, in my own experience, been made correctly in the majority of instances. The great bulk of the utterances in these directions may stand very well in Society discussions,

or in library papers, but they will not stand the test of bedside experience.

Another point in connection with this interesting case is the fact made abundantly clear by the preparation that no matter what the symptoms had been previous to rupture, physical examination could not have permitted any diagnosis other than that of normal pregnancy of about 4½ months.

This is my solitary experience of interstitial tubal pregnancy, but it so closely resembles a number which I have seen in museums that I take it to be quite typical of its class. I am therefore disposed to believe that from physical examination interstitial tubal pregnancy could not be diagnosed, and I can imagine no symptoms which would help us to recognise it before rupture. If we were to assume that in such a case as this a diagnosis could be made, much ingenious speculation may be engaged in as to what would have been best to do for the patient. If a correct estimate of the relation of parts could have been made, clearly what ought to have been done was to dilate the cervix, divide the septum freely, and empty the cornual cavity.

To have attempted to destroy the child would not have benefited the patient one bit. The placenta would have gone on growing, and even if it had not, a bag of putrescible material would have been left, which, had it burst, must have burst into the peritoneal cavity.

At the time of rupture, if surgical assistance could have reached the woman with sufficient promptitude she might have been saved by a hysterectomy, and from the appearances at the p.m. there is no doubt that this could have been easily accomplished.

Dr. HEYWOOD SMITH said that in this case, judging from the condition of the uterus, it would have been impossible to secure only the cornu of the uterus. The question arose as to whether it would not have been the best plan to remove the whole supra-vaginal portion of the uterus.

Mr. TAIT: Certainly.

Dr. BANTOCK exhibited a number of specimens illustrating many forms of disease to which the uterine appendages are liable.

1. A form of disease, which involves no risk to life but entails the most distressing symptoms, rendering the patient incapable of following her usual avocation, was shown in the ovaries of a married woman, aged 29, and the mother of two children. This patient was the subject of severe dysmenorrhœa. The cervix had been dilated with temporary relief, but the dysmenorrhœa returned in a few months with increased severity and with the addition of more or less constant pain. At the urgent entreaty of the patient and on the ground of negative evidence from the absence of any enlargement and inability to feel the ovaries in a favourable subject, which induced him to conclude that the ovaries were cirrhotic, he removed the appendages. Examination of the specimens confirmed his diagnosis and the result has been a complete cure, both in the arrest of menstruation and the relief of pain.

2. An example of one of the results of salpingitis in enlargement of the tube in association with an ovarian tumour on the opposite side with a twisted pedicle. In this case both tubes were as large as the index finger, that on the side opposite to the tumour being closely adherent to the posterior aspect of the broad ligament. The patient was a married woman aged 25, without family.

3. An example of abscess of the right ovary with salpingitis and adhesions and chronic salpingo-ovaritis in the left side. This patient was a single woman, æt. 36, who had had one child some years ago. There had also been some hæmorrhage from an unascertained source involving the serum, which had to be very carefully separated. The operation was a very formidable one, but the success was complete.

4. An example of blood cyst of the left ovary with salpingo-ovaritis on the opposite side, very extensive. The patient was a single woman, aged 32, and had been an invalid

for several years, with difficulty following her occupation, serving in a boot shop. Hæmorrhage was very serious after the operation from the torn adhesions, and the drainage tube was not got rid of within a fortnight. The result, however, was a complete success.

5. A beautiful example of the parovarian cyst, of the size of a large orange, removed from a married lady, æt. 24, with one child. This specimen illustrated the facility with which the cyst could be shelled out of its peritoneal envelope formed by the two layers of the broad ligament, between which the organ of Rosenmüller is situated.

6. A small sarcoma, weighing about half a pound, of the left ovary which had undergone cystic degeneration. For convenience' sake he had not brought the larger one weighing six pounds, formed by the right ovary. In this case the patient was a single woman aged 36, and this disease was associated with ascites to the amount of twenty-six pints. Although the patient had recovered from the operation, *making his eighty-first consecutive successful ovariotomy* in the Samaritan Free Hospital, yet he feared the ultimate result would not be satisfactory, for there was evidence within the pelvis that infection of glands had already taken place.

7. A recent specimen removed the previous morning from a single woman, aged 24, illustrating the conditions of hæmatosalpinx in the uterine end of the left tube, and pyo-salpinx in the outer portion, in which the contents had undergone caseous degeneration, and in the right tube pyo-salpinx in the same stage, together with almost complete severance of the tube by a constricting band of adhesion, a condition which he could scarcely have thought possible without actual observation. Although it was not possible to say what the result of this operation would be, yet he had the satisfaction of saying that she promised exceedingly well, as so far there was no unfavourable symptom.

Dr. FANCOURT BARNES showed an ovary with the left Fallopian tube which he had removed six weeks previously, from a patient who had been incapacitated from work in consequence

of suffering, and was a chronic invalid on account of pyo-salpinx. She left the hospital quite well about a fortnight ago. The tube was full of thick yellow pus, and the walls were very much thickened. In reply to Dr. Heywood Smith, he said that he did not make a differential diagnosis between pyo and hydro-salpinx, all he had done was to diagnose one OR the other.

Dr. EDIS observed that the case threw a great deal of light upon the importance of diagnosis and the utility of electrolysis in such cases, but as the latter had so recently been considered by the Society he did not think it was desirable to re-open it then. He remarked that the glut of material was to be regretted, to some extent, since it prevented them dwelling on particular cases of interest. There could be no doubt that thousands of women, in the length and breadth of the land, were suffering, as only women could suffer, whose condition was totally ignored or disregarded, and who were treated by purgatives, hot water douches, caustics, pessaries, and what not, without deriving any but trifling benefit. He agreed with Mr. Lawson Tait that when the symptoms justified their opening the abdomen their duty was to do so. Formerly they merely tinkered about with pessaries and the patient went unrelieved. He thought it ought to go forth that men in general practice ought not to allow their patients to continue for years to suffer without having recourse to an operation, which, on the whole, involved very little risk in competent hands. He thought they were very much indebted to Mr. Lawson Tait, Dr. Bantock, Dr. Barnes, and others, for insisting on the only proper treatment for such cases. He said that if men could only be brought to appreciate the importance of having these cases attended to, they would be much more ready to have recourse to operation.

Dr. ROUTH observed that Dr. Bantock did not say whether he had recognised the condition of things before operation. With reference to the remarks of Dr. Edis, he suggested that it was impossible to accept the idea that a woman's abdomen ought to be opened simply because they were unable to make

out what was the matter with her. What they were looking for at the present time, was for some means of ascertaining exactly what the condition really was beforehand. This having been done, if there was a *prima facie* reason for suspecting the existence of pyo-salpinx, well and good. He thought that the mere fact of a case not having been cured by other means was hardly sufficient.

Mr. LAWSON TAIT replied that the President had said nothing about the abdomen being opened merely because there were symptoms they did not understand, nor would anybody short of an idiot suggest anything of the kind. What they did maintain was that if women were unrelieved by every other method of treatment, and were in a condition which rendered life a burden, then it was justifiable to open the abdomen, to see what was the matter. It had been shewn that the mortality of pyo-salpinx, when left alone, was not short of fifty per cent., a figure vastly in excess of the operation for its relief. He asked whether a surgeon would allow an abscess of the knee-joint or eye to go on unrelieved. He supposed not, and all they asked was that the same rule of surgery should apply here as elsewhere. Dr. Routh had said that he (Mr. Tait) admitted opening the abdomen and finding nothing; that statement he denied. They did not pretend to make an absolute differential diagnosis of tubular disease, say between hydro-salpinx, hæmato-salpinx and pyo-salpinx; but they found physical evidence in support of the patient's statements, irrespective of the malady being purulent or merely serous. The distinction could not generally be made beforehand; a surgeon may make a lucky shot now and again, but he was just as likely to make a mistake. He knows that there is something wrong there which justifies him, in the first place, in believing his patient and, other things having failed, in doing the only thing that could be done to relieve her.

Dr. BANTOCK stated, in reply to Dr. Routh, that in all the cases of disease of the appendages brought forward, he had been able to ascertain by the physical signs that the cases

were suitable for operation. Even in the case of cirrhosis he had diagnosed this condition. Although the subjective symptoms were very well marked, yet the physical signs were entirely negative, and it was from the fact that no swelling could be found, nor even the ovaries made out, in a case favourable for bi-manual examination, that he had arrived at his diagnosis. In the last case quoted it was quite easy to make out that there was disease of the appendages on both sides, but especially on the left, where a small globular body could be felt, together with a small mass of an undefined shape. In this case, however, the attempt to make an accurate diagnosis would certainly have failed, for while the globular body would have been taken for the ovary, the other mass would have been taken for the enlarged tube. But the specimen showed that the globular body was a hæmato-salpinx, and the other was formed by the fusion of the ovary and outer part of the tube, and their adhesion to the broad ligament. It was not necessary to make an accurate diagnosis in these cases. It was sufficient to be able to say that there was disease, which nothing but abdominal section could clear up.

And so it was with the other cases. It was impossible to diagnose a blood cyst in the one case, or abscesses of the ovary in the other, associated as they were with extensive adhesions and enlargement of the tubes.

Dr. FANCOURT BARNES, in reply, spoke in support of what Mr. Lawson Tait had said as to the mortality among women suffering from pyo-salpinx, for whom nothing was done. They all knew that they were in danger of their lives. In the case he had just shewn them, as he drew the tube up from the pelvis, the sac burst, and the pus escaped before he could apply a ligature. This occurred even with the slight pressure applied, and shewed she was running a great risk of rupture every day.

Dr. EDIS said that he did not assert that any surgeon would be justified in opening the abdomen because there were symptoms which he could not understand. What he

did say was that if, from the difficulties of the case, they could not distinguish between a hydro- or a pyo-salpinx, or an enlarged ovary, if the symptoms were such as to justify interference, they ought not to wait to make a differential diagnosis.

Intra-uterine Medication. By ROBERT BELL, M.D., F.F.P.S., Glas. Physician to the Glasgow Institute for Diseases of Women and Children.

MY object in bringing the subject of intra-uterine medication before the Society is simply and solely to detail my experience of its utility in the treatment of uterine disorders, and to demonstrate the various advantages I have observed to follow its judicious, careful and regular employment The physiology, not to speak of the pathology of the uterus and its appendages, to my mind are far from being in a satisfactory condition, and my theories and conclusions, I am quite prepared to find, may be considered crude and difficult of acceptance, yet such as they are, I have no hesitation in submitting them to the kindly consideration and judgment of the members who have done me the honour of being present to-night.

My feeling is that the uterus in a very large majority of cases is the *fons et origo mali* in a great many of the various affections, to which the tubes and ovaries are liable, and therefore through its medium we have it in our power not only to avert such diseases, but to arrest them when they are making progress, and even cure them when they have become established. In flexions, also, I hold we are too liable to attach undue importance to the so-called supports of the organ. It must not be inferred, however, that I do not recognise the great utility of some of these, amongst which I would enumerate the sacro-uterine ligaments, the vagina and in relation to it, the perineum; but when we come to speak of the broad and round ligaments I must express my doubts. My convic-

tion is, we do not sufficiently recognise the importance of an intact vagina and the normally rigid condition of the uterus itself, its comparatively light weight and its tubular formation. It is held by some eminent authorities that uterine engorgement is not a necessary result of displacements, especially flexions. Dr. Mann, of the University of Buffalo says, "The uterine artery gives off a large number of parallel branches, which run at right angles to the main trunk, and anastamose freely with the corresponding branches on the opposite side, so the uterus may be regarded as composed of numerous segments, each of which has its independent vascular supply. It is obvious, without argument, that no flexion, however sharp, can cause any considerable interruption of the circulation either above or below the point of flexion." Now this is very true with regard to the arterial supply, and this is the more emphasized when we take into consideration the elasticity of the walls of the arteries, but what about the veins and venous sinuses which exist, with their membraneous coats which are so easily compressed at the line of flexure. What Professor Mann holds up as an argument against the possibility of engorgement strengthens my view, and if it does so it certainly makes his theory. It is because the afferent vessels are so little interfered with and the efferent vessels are so much, that in flexions engorgement with its evil consequences do supervene.

If we view a healthy uterus we cannot but be struck with its comparatively pallid appearance, and yet we know from a study of its minute anatomy, how vast is the network of bloodvessels and lymphatics it contains. Whence then this pallor? Doubtless it is due to the tonus of its muscular walls, and this is the point to which I desire to direct special attention. Indeed, so long as this tonic condition of the uterine walls exists, flexion is impossible, and this must be departed from either physiologically (which occurs just prior to and during menstruation), or pathologically, before a flexion can possibly result. Remove the tonicity of the muscular fibres which regulate the arterial and venous circulation, then en-

gorgement results and a flaccid condition of the walls ensues. Thus we have sudden and violent concussions on the sacrum producing retroflexions when the accident occurs near the menstrual epoch. I may here state that in my experience every traumatic case of retroflexion in multiparous women has occurred just about the menstrual period, and what aggravates the tendency is, that in consequence of the pain and discomfort which results, the patient is put to bed, where she lies on her back, and in all probability permits the rectum to become overloaded, by which the uterus is firmly held down in its flexed position. These remarks are, perhaps, slightly out of the way, and yet they are necessary to illustrate what I am about to say.

My first question then is, what is the best application, as a rule, to employ in intra-uterine medication? Apostoli uses electricity, but that I merely refer to as I can see no advantage it possesses. Moreover, none of his apostles seem to have any idea how it acts, or which pole should be inserted in different circumstances. My impression is, that the effect is very similar to that produced by other applications, viz., a stimulus to the muscular fibres of the uterine walls, causing them to spasmodically contract and thus expel the contents of the surcharged veins and sinuses. I have treated over 2,000 cases of endometritis, and I flatter myself the results will compare favourably with those of Apostoli.

It will be quite unnecessary for me to refer to the various medicaments which have been and are in vogue, for the purpose of treating the endometrium. So far as I am able to judge that which yields the best results is the iodised phenol, the proportions being 320 grains of iodine dissolved in 8 ounces of liquefied carbolic acid. This preparation possesses many advantages. It is aseptic and antiseptic in the highest degree, thus its employment is not attended with any of the dangers of Apostoli's appliances, and it yields equally good results. Secondly, the carbolic acid exercises a powerful anodyne effect on the endometrium, thus the pain produced by the application soon subsides, and thirdly it possesses powerful alterative properties.

The first class of cases that I will take up is that of endometritis, which, as we know is the source of so much misery, and I am convinced is also the factor of those inflammatory diseases which affect the Fallopian tubes, and not only these, but through the lymphatic connection with the ovaries it may in all probability set up disease in these also. It goes without saying that the ovaries in a very large majority of cases of endometritis do suffer from inflammation in consequence of the serious congestion which follows in the wake of the primary affection of the uterus. In proof of this, I may state that I have frequently observed cases of salpingitis get completely well under the treatment of endometritis, and also it has been my good fortune to note the steady decrease and complete disappearance of oöphoritis under the same circumstances. The frequent, nay, almost constant presence of ovarian hyperæsthesia in endometritis points conclusively to the fact that a morbid condition of the ovaries very frequently depends solely upon a diseased condition of the uterus, and the disappearance of the oöphoritis simultaneously with the endometritis puts this beyond all doubt. While on this subject it is worthy of note that the pain produced by an application to the endometrium in these circumstances is referred by the patient more to the site of the ovaries than to the uterus itself.

Before quoting any cases illustrative of my method of employing medicaments to the endometrium, I would draw attention to the possibility in every long standing case of their being present a granular, if not actually a fungoid, condition, to boot. It is therefore of great consequence to remove such growths as a preliminary to the strictly medical part of the treatment, whereby the proceedings will be very much shortened. For this purpose I have had made a new form of curette which can be employed with much greater ease, and less pain than those I have previousiy been acquainted with.

Mrs. R., æt. 38, had two children, the younger being ten years of age. Patient had not been well since the birth of this child, and was, when I first saw her, in very feeble health. She had consulted several medical men, and had been more or less

under treatment all these years without deriving benefit. She complained of acute pain over right ovary, which was aggravated on the slightest exertion, of great weakness which was very pronounced after the least fatigue, of lowness of spirits, irritability of temper, and in fact all the train of symptoms which we are all so familiar with in cases of endometritis.

On examining per vaginam I found the perineum was deficient, having been lacerated during her first confinement. The womb was lying low, very flabby, sensitive to touch, and from its orifice a muco-purulent secretion was exuding.

On applying iodised phenol to the endometrium great pain was produced, especially in the region of the right ovary. The applicator was permitted (as is my custom) to remain within the uterine cavity for a minute or so, until in fact it had excited sufficient muscular contraction to render its withdrawal more difficult than its entrance. It was then withdrawn, and a tampon saturated with the glycerine of alum and boracic acid placed in the vagina. This was permitted to remain for three days. At this time I advised the patient to come into town and have the perineum repaired, as I was of opinion that the metritis and prolapsus were due very largely to this defect, and not only would the uterine mischief be more speedily removed were this preliminary step taken, but the cure would have a much greater chance of being permanent. She accordingly had the perineum repaired by the flap method, and afterwards was under treatment for four months, during which period I applied iodised phenol once a week to the whole extent of the lining membrane, after which a tampon was introduced and allowed to remain for three days, when it was removed and a new one put in its place and permitted to remain for a like period. Now this patient had thirty miles to travel each time she came to see me, which with the return journey must necessarily have retarded her recovery. Had she been resident in Glasgow I am convinced her recovery would not have been so long delayed, yet notwithstanding this drawback she was in very good health by the end of four

months, and expressed herself as feeling better than she had done for ten years. Besides the local treatment she took 2½ grains of valerianate of zinc, and 2 grains of extract of conium in pill forenoon and afternoon, the bowels were cleared by an enema every second day, and other hygienic measures were carefully attended to. Now here was a case which had been under treatment for eight years without deriving the slightest benefit, recovering, when the treatment was directed to the endometrium, in four months. We surely do not wish any better evidence than this of the utility of intra-uterine medication in suitable cases.

I will now proceed to give the history of a distinctly different example, and will do so as briefly as possible, for it would be a waste of time to describe the subjective symptoms with which we are all so familiar.

Mrs. T., æt. 33, married six years, two children, youngest four years of age. Patient has not felt well since last confinement, her health gradually going down since, although she has gained very much in weight. During the past two years she has suffered very much from metrorrhagia, which at all times continued for three out of the four weeks, and when it did cease a purulent discharge took its place. Vaginal examination disclosed an anteverted, enlarged, and flaccid uterus. The uterus was curetted and underwent two months of intra-uterine and tampon treatment, but in this case the application was made bi-weekly. She was also put upon 15-grain doses of the muriate of calcium, three times daily after food because of her strumous appearance. She called upon me three months after the treatment was commenced and one month after it had been discontinued to report herself, when she expressed herself as feeling quite well, and informed me that her menses the last time had continued only five days. I need not tell you, gentlemen, that it would be too much to expect every case of this disease to yield so readily to treatment as those I have detailed, but even if we get equally satisfactory results in six months we have reason to be satisfied, and in the very large majority of cases we shall not need

to persevere for any such lengthened period. For my part I hold there is no class of cases which give so much gratification to a medical man as this class of disease, as the success of treatment is so certain and the relief to the patient so pronounced and visible, not only to herself, but to her friends.

I need not give in detail any more cases of this disease which have come under my notice, though this would be no difficult matter, seeing I have attended over 2,000 cases of endometritis during the past ten years. I would, however, like to speak of its prevalence amongst young ladies, giving rise to most acute dysmennorrhœa as well as undermining the physical and nervous health of the individual. At this moment I have under treatment three cases of hystero-epilepsy in young ladies, which, I am convinced, will get well when the uterine mischief is removed, and thus repeat an experience which I have frequently had in the past. We must not overlook the probability that if a girl who is suffering from endometritis gets married, the disease will increase in severity and sterility will certainly result. This is a most delicate but important matter for consideration, but, nevertheless, it should be dealt with whenever it exists, or most assuredly a miserable married life will be the experience of your patient. In almost every such case there will exist vaginismus to a very considerable extent, so that it will be necessary, before any consecutive treatment can be carried out, to overcome this in the first instance. I happened to see one of my unmarried patients to-day who had been under treatment during three months for metritis. She suffered most intensely at each period from dysmenorrhœa and epileptic seizures. The metritis is now well and with it the dysmenorrhœa and epileptic fits have gone also.

I will now proceed to speak of intra-uterine medication in a class of cases where it is not usually employed, but where I have found it very useful, this being due to the fact that displacements are invariably associated with a softened condition of the uterine walls, resulting from a congestive condition of

the parts. And I may here be permitted to remark that though not in every case successful, the removal of the flaccid condition of the uterine walls which so uniformly prevails in flexions, has in a very large majority of instances done more in my hands to remove the displacement and give a permanency of relief than that obtained by the employment of any variety of pessary that I am acquainted with. It will be obvious to any unprejudiced mind that the result will be much more satisfactory if, while we restore the flexed organ to its normal position and at the same time employ means to give tone to the uterine walls, we will obtain better results than if we simply keep the debilitated organ in position by a pessary. In the former case we not only relieve the uterine engorgement, but also the concommitant constitutional symptoms, and thus improve the general health of the patient, whereas in the latter the health of the individual remains very much in *statu quo* from the fact that the atonic and hypertrophied condition of the uterus remains or at all events disappears very slowly. It must not be inferred, however, from what I have said that I discard the employment of pessaries altogether in the treatment of flexions, for in many instances they prove a most useful auxiliary in the early stages of treatment. My plan of treatment is first by means of the sound to ascertain the curve of the flexed organ, and then after bend the applicator (which I have made of soft copper wire) as the sound indicates. Having armed this with cotton wool firmly wrapped round the distal end to the extent of three inches, and saturated it with iodized phenol, it is passed up the uterine canal to the fundus. By means of the applicator the uterus is made to revolve till it occupies its normal position and there it is retained for a few seconds. As a rule the uterine walls will contract firmly on the foreign body and remain rigid and erect. The applicator is then withdrawn, when it will be found that for the time being the uterus does not return to the previous abnormal position, but remains in that to which it has been restored. A tampon soaked with glycerine of alum and boracic acid is then packed in behind

the uterus and allowed to remain for three days, when it is removed and another substituted. As a rule it will be unnecessary to make the application to the endometrium more frequently than once a week.

The object of the tampon is two-fold; first, to retain the uterus in situation, and, secondly, to act as a depleting agent to the hypertrophied tissues.

By this method it has frequently been my good fortune completely to overcome the tendency of the uterus to fall back into its retroflexed position, in short to restore it to its normal position which it is able to retain without mechanical support. The treatment of such cases will, as a rule, occupy from three to four months, and during this period, it is my custom to introduce Hodge's pessary before the menses are expected, and allow it to remain till the flow has ceased, with the view of retaining any advantage that has previously been gained, and afterwards the treatment is resumed.

Two cases will be sufficient to illustrate the foregoing remarks:

Case 1.—Mrs. P., æt. 35, consulted me about two years ago, she had slight retroversion combined with retroflexion and considerable hyperplasia of the uterus. The os and uterine canal were patulous, from which was oozing a muco-purulent discharge. She complained of the usual symptoms in such cases, but her chief complaint consisted in the fact that she had miscarried eight consecutive times about the 3½ months. The cause of the frequent mishaps was to my mind due not only to the unhealthy condition of the uterus but to its position, as from the relation it bore to the hollow of the sacrum, I could see that if pregnancy existed, the enlarging uterus would become impacted in the sacral cavity, and therefore would be unable to attain any further development, when, as a consequence, abortion would follow. I therefore proceeded with the plan of treatment which has just been described, and with the most satisfactory results as far as the flexion and version were concerned, but I took the precaution of inserting a Hodge pessary within the vagina at her last visit to my

house. Seven months ago she sent for me to ascertain the position of the womb, as she was again pregnant and was naturally very anxious. I, however, found the position of the organ all that could be desired, and she has gone on most satisfactorily since, and expects her confinement in April.

Case 2.—Mrs. L., æt. 36, consulted me in September last. She was wearing a Hodge pessary for retroflexion, but complained of it hurting her very much. She dates her first illness from the birth of her last child which took place in China eight years ago, since which time she has been more or less of an invalid. The uterus was exquisitely sensitive, and she always experienced pain both immediately prior to and during the first day of the menstural flow. There was not only metritis but, as I have said, excessive hyperæsthesia of the organ, so that I was afraid to interfere with the endometrium before I had first reduced the metritis by glycerine and boracic acid tampons which were introduced bi-weekly for a month, after which time I employed intrauterine medication once a week, each time restoring the womb to its normal position, and retaining it there by one or more tampons properly adjusted. During the whole period of treatment which occupied three months, she expressed herself as being highly gratified by the results, being conscious of gradually returning health. At the end of the period named, the uterus was able to retain its normal position, and there was complete freedom from any inflammatory symptoms. I must confess, however, that the results of the treatment are not either so rapidly obtained or so uniform as in this case, but that they can in many instances be produced is sufficient to encourage us in giving this method a further trial, and I would venture to solicit the judgment of this Society upon it.

In conclusion, I come to speak on a subject which to us as gynæcologists is, at the present moment, engrossing our attention very much. I refer to the treatment of fibroids of the uterus. At the onset I must confess I am neither an apostle of Apostoli nor a disciple of Mr. Lawson Tait. If on the one hand these growths can be got rid of by electricity applied to

the endometrium, or by the more dangerous method of applying the current directly to the tumour, or on the other by removal of the uterine appendages, by which the blood supply of the ovarian vessels is removed, I would ask can the end not be accomplished by so restoring the equilibrium of the uterine circulation and tonus of its muscular structure that the blood supply will only be sufficient to nourish the normal tissue to the disadvantage of the adventitious growth, so that the latter will assume the character of a foreign body, which it undoubtedly is, and the former by its contractile power, will either be the means of starving it out of existence, or expelling it from its niches. These may be considered very crude ideas, but facts are stubborn things, and with these remarks I will proceed to defend the position I have taken up. Seven years ago I was called to attend a case of endometritis which had completely undermined the health of the patient. She had copious muco-purulent discharge from the uterine canal and at the catamenia the flow was excessive. On examination I could detect a small myoma in the anterior wall just beyond the cervix, but to this I gave very little attention, and proceeded to treat the endometritis which existed in my usual way. The result was so far satisfactory that the patient improved very much in health, but whenever treatment was discontinued she fell back again to her former condition of ill-health, till on one occasion on applying to the canal the applicator when withdrawn was minus the cotton wool with which it was loaded, and do what I could I failed to extract the cotton, so I was obliged to console myself with the fact that it was charged with an aseptic substance, and would do little or no harm, though it did not come away for a day or two. Within a few hours of the patient's return home, she was seized with violent uterine pains and I was sent for to find her suffering very acutely. In a short time, however, the small fibroid before-mentioned had shot down into the vagina, and with it the cotton I had left in utero, when all pain ceased. I removed the polypus, and from that time the patient has not suffered from any uterine trouble, but on the contrary has borne two children.

During the past three years I have treated many cases of fibroids by acting on the endometrium, and through it upon the uterine walls, and with the most gratifying results, which I must however leave to be the subject of a future communication to the Society.

Dr. BANTOCK said that the subject was one in which they were much interested, and they had all met with a number of similar cases. He asked Dr. Bell whether he distinguished between flexion and version, for he (Dr. Bell) had seemed to speak of them indifferently. He said that for flexion, a vaginal pessary was altogether useless, nothing short of a stem pessary doing any good, whereas for version, the vaginal pessary was a very admirable instrument. He did not know that there was any difference in principle between the treatment which Dr. Bell adopted and that employed by himself. Dr. Bell treated cases of chronic endometritis by tampons of glycerine and the application of iodised phenol, but he, himself began by depleting the uterus, and he thought that one obtained much more rapid results by so doing. Dr. Bell had shewn them what he called a curette, but if he had to deal with fungoid granulations of the uterus he would not use such an instrument. It was quite possible to get an instrument by which you could do no harm to the uterine mucous membrane, and which would be much more effectual in removing the granulations. His own instrument was much more satisfactory. He was agreed as to the pathology of antiflexion. Passing on to the treatment of fibroids by intra-uterine medication he said that there could be no doubt that in a certain number of cases in which hæmorrhage was a prominent symptom, a fungoid or granular condition of the endometrium existed in association with a small fibroid. It was easy to dilate the cervix and remove the granulations and do the patient a great deal of good. That was when the tumour was small and showed no sign of growing; where they had several tumours in the uterine walls to deal with, it was often difficult to get a sound inside, and he considered that any attempt to dilate the uterus under these circumstances would probably end in disaster. Such cases therefore ought to be excluded.

Dr. AVELING said he did not gather whether Dr. Bell was in the habit of dilating the uterus before using his curette. He thought the latter was a very bulky instrument, without any advantage over the blunt curette which could be used with perfect safety.

Dr. HEYWOOD SMITH said he considered the paper a very suggestive one. He agreed with Dr. Bell in the main lines of treatment which he had laid down, and he agreed with what Dr. Bantock had said as to the preliminary depletion of the uterus. There was no doubt that by beginning with puncturing or leeching followed by tampons, they got better results. Moreover, one could then dilate with safety. Dr. Bell did not tell them anything about the preliminary dilatations, and he asked him whether he dilated before introducing the probe with the iodised cotton wool. Under ordinary circumstances a great deal of the solution would be squeezed out in endeavouring to do so without previous dilatation. His own practice was to dilate rapidly with graduated sounds up to about number 11 or 13, and keep the sound in the uterus for a few seconds, then quickly removing the sound he passed the probe with the cotton wool. It could then be passed in without losing a drop. Incidentally referring to what Dr. Bantock had said with regard to flexions and versions, he thought he had generalised too much in saying that all flexions, in contradistinction to versions, required intra-uterine stems. He agreed that such was the case with respect to anteflexions, but retroflexions were not so stiff as anteflexions, and he was convinced that there were many cases of retroflexion which could be cured without intra-uterine stems. He asked Dr. Bell what he would do in cases of endometritis limited to the fundus. In these cases the characteristic pain was only evident when the sound reached the fundus, and was generally referred by the patient, not to the region of the ovaries, but to the neighbourhood of the umbilicus. Then with regard to the curettes, he thought those shown by Dr. Bell were extremely valuable instruments. He thought that the ordinary sharp-edged curettes might be attended with risk, unless there was a

distinct hard induration to be cut through. In these new curettes, however, the wire loop seemed thin enough to form a sort of cutting edge, and the curette itself would act as a sort of cage or dredge, and bring away with it all the *débris* which it removed from the uterine cavity.

Dr. MANSELL MOULLIN said that Dr. Bell claimed to have treated over 2,000 cases of endometritis. It was quite evident that he was using that term in a comprehensive and inexact manner which was calculated much to depreciate the value of his remarks. That such was the fact was, he thought, self-evident from the cases related.

The sudden production of retroflexion by severe blows on the sacrum was a much debated point. He did not believe in it, although many leading gynæcologists professed a wide experience in such cases. Dr. Bell did not believe in it either, and very correctly said that it was impossible to occur as long as the uterine walls preserved their proper tone, but at the same time he advanced a theory that the walls did lose their tone during and about the time of menstruation. Dr. Moullin maintained that a suddenly produced retroflexion was as impossible at this time as at any other. Retroflexion was essentially the result of a long continued cause. It was due to the want of tone and inability of the middle segment of the uterus to sustain the upper, either on account of its weight or the pressure placed upon it, and involved atrophy of the wall at the seat of flexion. Typical cases might be seen in debilitated and anæmic girls, in whom, moreover, displacement and prolapse of the whole of the pelvic organs might occur. The worst case of prolapse of the vagina, uterus, rectum and bladder he had ever seen was in an unmarried girl of this description. The treatment and necessity to maintain the prolapsed organs in their proper place by means of a suitable support was obvious. It was hopeless, however, to expect that they would recover their normal tone and condition to such an extent as to be able to maintain themselves in position without extraneous assistance. Similarly a retroflexed uterus was supported by a pessary, but if that pessary were removed,

months or years subsequently, the uterus would almost certainly return to its abnormal position. Even when gestation took place in almost every case the retroflexion reappeared as soon as the process of involution was completed. It was too much to expect that a little temporary spasm excited by the application of a caustic to the lining membrane could, under such circumstances, restore the normal condition and tone of the uterus as claimed by Dr. Bell.

He thought electricity might be tried with advantage in cases which depended solely on want of tone. Not such currents as had been used to bring about a so-called electrolytic action, but a mild faradic current, such as was employed to restore the tone of debilitated muscles elsewhere.

He was strongly opposed to the indiscriminate application of caustic substances to the interior of the uterus.

Dr. PRIDHAM expressed the pleasure he had felt at listening to Dr. Bell's paper. There were many cases in private practice which yielded to Dr. Bell's, combined with constitutional treatment. With regard to electrolysis he quoted a case which had come under his notice twenty years ago, in which the patient had the largest abdominal tumour he had ever seen, it actually reached so high as to interfere with the action of the heart. The patient was brought to London and examined by Sir Spencer Wells, who made an exploratory incision and found that the tumour consisted of the uterus itself. As no authority could be given to remove the uterus the wound was closed and the patient was taken back to Devonshire. From that day the tumour began to subside and was now no bigger than his fist. He suggested that had the tumour been electrolysed they would have been told that it was cured by electricity.

Dr. BELL, expressed his regret that the lateness of the hour would prevent his replying in detail to the strictures on his views. In answer to Dr. Bantock, he held that it was possible to restore the tone of the uterus by removing the condition which gave rise to the morbid condition. He

held that if one could possibly re-establish the condition of the uterus the displacement would disappear, not because it was supported, but simply by its inherent power of resuming its erect posture in consequence of the erectile tissue which it contained. With reference to the livid appearance of the uterus in certain cases, he pointed out that the introduction of a stimulating application, caused this to give place to pallor. He never used caustics himself to the interior of the uterus. He had treated a great number of cases of metrorrhagia by means of the ordinary curette over and over again, but in one very bad case at the Bridge of Allan he had employed the simple loop of wire. The curette he was speaking of had cleared the whole uterine walls in one sweep and the metrorrhagia ceased entirely. He maintained that, if one strengthened the uterus, there was no difficulty in introducing the sound. It was seldom necessary to dilate because in endometritis there was generally a patulous os. In any case the constriction would only be at the external os.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, APRIL 25, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 28 Fellows, 6 Visitors.

The following were elected Fellows of the Society:—Dr. J. J. Pitcairn, Dr. J. Moir.

The following was proposed for election:—Dr. F. Wilson, Cape Colony.

Books and instruments were presented to the Society by Dr. Mundé, of New York; Dr. James Smith, Belfast; and Dr. Borlase Hicks, London.

Dr. FANCOURT BARNES said, Sir, I have in the next room a living specimen of a hermaphrodite. I use this term on general principles, because it is the case of an individual who has been brought up to the age of nineteen as belonging to the female sex, when it is perfectly clear that he was a male. The mother had a fright when about two months pregnant. At the time of birth the doctor said it was a girl, but a fortnight later the mother noticed something wrong with the genitals. The hair began to grow on the pubes at the age of nine, and now extended nearly up to the umbilicus. Hair had also grown on the arms, and especially the fore-arms. The mother said her child's tastes were decidedly feminine, but she had never shewn any partiality towards the male sex. She was affectionate and gentle towards her brothers and sisters. She wore a plait extending down to the middle of the back. Two or three years ago her hair began to fall off, and moustache and beard appeared. She was evidently shaven. The point of interest in her case was that she had been brought up to live the life of a woman

though undoubtedly a man. As an example of the difficulty of deciding these cases without a post-mortem examination, I would draw the attention of the Society to a child which was born in my wards in the British Lying-in Hospital, and which I had figured in the third edition of my "Manual of Midwifery for Midwives." The child in question looked like a male—had something resembling a penis. It was shewn during life at the Obstetrical Society, and several Fellows examined it in every way most carefully, yet opinions were quite divergent, and it was impossible to decide the sex authoritatively. When the child died three weeks later, an occluded vagina with uterus and ovaries were found. I pass round some photographs of the patient, taken by Mr. Muirhead Little.

The accompanying photographs shew the appearances of the genital organs. In Figure 1 it is seen that the external genitals consist of a penis with no scrotum, no testicles, and no vulvar opening into a vagina.

In Figure 2 the penis, which is sessile like the clitoris, is raised in order to display the opening of the urethra running along the under surface. In passing the catheter into the bladder along this furrow, I had to make the usual *tour de maitre* to enter the male bladder. On examination by the rectum I could detect no uterus, ovaries, or testicles.* The patient has never menstruated, nor has she shown any symptoms of menstruation. The breasts were absolutely of the masculine type.

The President and Fellows of the Society then proceeded to examine the case.

Dr. EDIS observed that it was a very interesting case because it might come before any practitioner at any time, to have to adjudicate as to the sex.

Mr. LAWSON TAIT said there could be no doubt as to the sex, and it would easily have been decided at any time after

* Since this a further examination per rectum has been made under chloroform with a similar result by Drs. Aveling, Edis and myself.

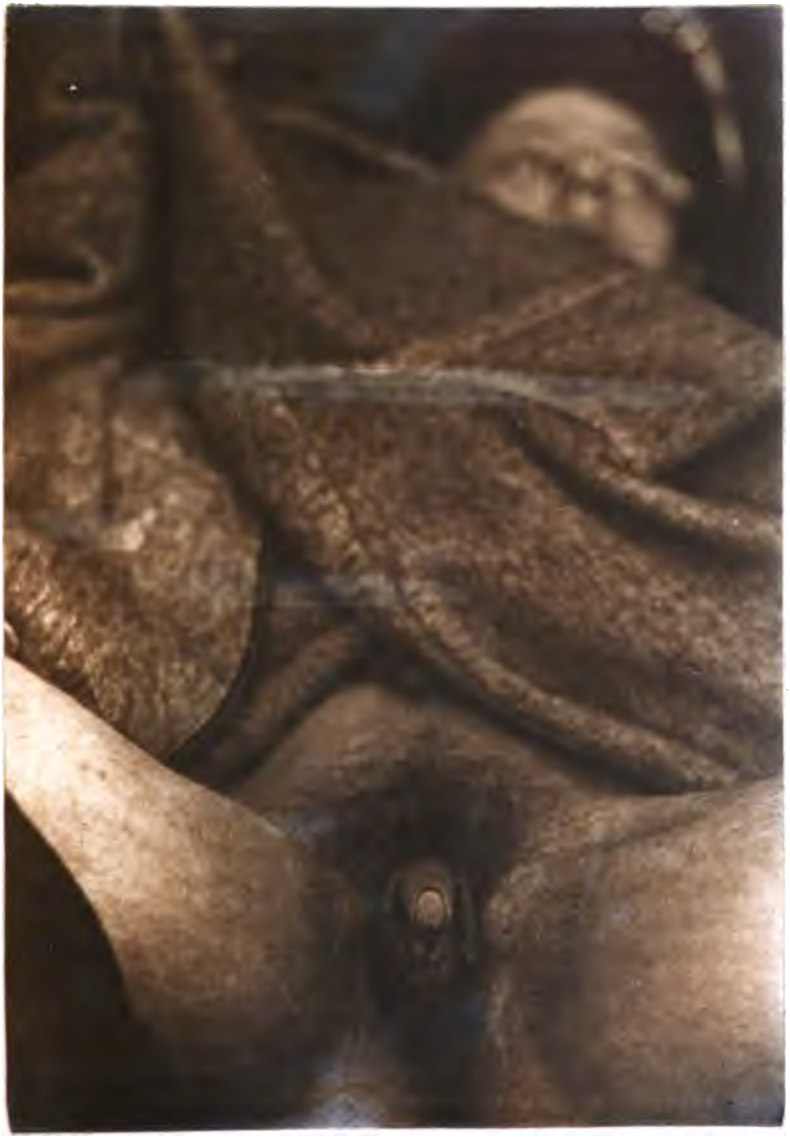


FIG. 1.

the first five years of life. He insisted on the desirability of always classing doubtful cases as males, for an imperfect girl brought up amongst boys could do little harm; but an ill-developed male brought up amongst girls would be sure to be mischievous.

Dr. ROUTH said he was by no means clear that it was a man. Such a conclusion was mere guess work. Even supposing there were no uterus, the mere fact was no argument against its being a woman. He had published a case years ago of a patient who had all the form of a woman, and was married, but who had only a small vagina, not more than three inches long. Her object in consulting him was to complain that her husband was unable to penetrate to the extent he desired. He then made a very close examination. Dr. Rogers, his colleague, managed however, to pass his entire hand into her rectum, and found there was no uterus. Whether there were any ovaries could not be made out. He asked whether this method of examination had been adopted in Dr. Fancourt Barnes' case. With reference to the patient having a beard, he said this had absolutely no weight. Many Jewesses had quite a large quantity of both beard and moustache. In any case, unless there was something detected in that direction which did not appear, he did not think they could come to any conclusion as to the sex in this particular instance.

Dr. AVELING observed that Mr. Lawson Tait, in expressing an opinion that the person was a male, did not give his reasons for so doing. He maintained that appearances did not prove the sex to be male. The presence of beard and moustache proved nothing. He had often seen it in women just as well marked. The face was feminine, the throat was decidedly that of a woman, the *pomum Adami* not being at all prominent. The voice was alto. He alluded to a case at St. George's Hospital where all these characteristics were present, plus a male voice and figure. Yet the patient was a woman, with an enormous clitoris which he had removed on account of the discomfort caused to the patient by its rubbing against the dress. Unfortunately that patient could not be

FIG. 2.

traced subsequently, so that no post-mortem evidence could be adduced. In this case there was hair on the pubes, and he maintained that hair did not grow there in the congenital absence of either testicles or ovaries. If the patient were put under an anæsthetic and the bimanual examination made, per rectum and through the abdomen, they might succeed in finding ovaries or testes. He asked whether this had been done. He suggested that the prostate gland which it was thought could be felt might be a rudimentary uterus.

Mr. LAWSON TAIT said that the lacuna major of the male urethra stared him in the face, and he asked whether this had ever been observed in the female urethra. Dr. Aveling asserted that hair did not grow on the pubes except either ovaries or testes were present, but he remembered a case in which he not only made an examination per rectum and vaginam, but had his hand inside the abdomen in the course of an operation. Yet there was no uterus and no ovaries, and the pelvis was like a tea cup, perfectly smooth and empty. This was a congenital condition, yet the patient had hairs in abundance on the pubes.

Dr. BANTOCK said he could have no doubt as to the sex of the individual. First of all the configuration was undoubtedly that of a male. They all knew how unsafe facial characteristics were as a guide, the dress making such a very great difference. When, however, they examined the genitals then the case was as clear as daylight. The appearance of the sexual organ was that of a penis, and the remainder of the urethra was to his mind, incontrovertible evidence in favour of its being a male. He said that Dr. Aveling's case was not as clear as it ought to be. Although he (Dr. Aveling) had classed the patient as a female, he gave no proof based on post-mortem appearances (Dr. Aveling observed that the patient had menstruated). Menstruation again was hardly reliable. He said it was not safe to make an assertion of that kind without an exhaustive examination during life or post-mortem. They might have a strong opinion but nothing more. He did not think the presence or otherwise of hair

upon the genitals need be taken into consideration, for if the presence of hair indicated the possession of ovaries, what must be thought of the absence of hair, yet he could remember a patient between 20 and 30 years of age, whose external genitals were absolutely devoid of hair, though her reproductive apparatus was perfect.

Dr. HEYWOOD SMITH observed that one would expect, in a hermaphrodite, to find some characteristics of both sexes. In this case the vault of the skull was eminently male, but the face had assumed a feminine cast. One point had not been brought out, and that was in reference to the structure of the so-called labia, the inner surfaces of which were covered with hair, making them appear much more like an infolded scrotum than labia proper. He said with reference to the alleged maternal impression, that the best authenticated cases took place at about the time mentioned, between the second and third month.

Dr. BARNES said it was abundantly clear that the sex was doubtful, and so far the individual was a hermaphrodite; he thought the sexual peculiarities might at some future time be further developed. Although, when he saw the patient at the hospital he believed the sex to be male; he still reserved his opinion. He doubted whether they could distinguish between ovaries and testicles by rectal examination, and he had met with women in whom no uterus could be felt.

Dr. ROUTH asked what would be the sex of a woman without uterus or ovaries. In what sense would it be a woman?

Mr. LAWSON TAIT said that in the case he alluded to, there was a completely developed vagina. As to the vault of the skull, he remarked that the patient was getting bald in a very peculiarly male way. He never saw a woman get bald in that way.

Dr. EDIS said he had seen the patient with Dr. Fancourt Barnes. He had examined the individual *per rectum*, and discovered what he thought was a prostate. The urethra led right up to it and was surrounded by it. The only way to

arrive at an opinion was to sum up the whole of the evidence. The voice was male, the pelvis was male; there was no mammary development, and a very noteworthy feature as to the hair on the inner aspect of the pseudo labia, was remarked by Dr. Heywood Smith. It was impossible to say definitely until they had found ovaries or testes, but the preponderance of evidence was in favour of its being a male. The patient never had any discharge akin to menstruation.

Dr. FANCOURT BARNES said that when he used the term hermaphrodite he meant that he felt certain some Fellows would say it was a male, and others a female, and that being so the sex remained doubtful. His own reasons for believing the person to be a male were, (1) the appearance of the head, (2) the *timbre* of the voice, (3) the non-development of the breasts, (4) the undoubted existence of a well-formed prepuce and glans penis, (5) the imperfectly formed urethra running down from the tip of the glands and passing into the bladder, (6) the utter absence of anything like a uterus or ovaries, and (7) the appearance of the perineum. The thighs were covered with masculine hairs. There was one other point, that this hermaphrodite was one of eleven children, but the sex of the last born since appeared to be doubtful. He had since seen this child. It exactly resembled the elder one and had been treated as a boy by the parents, on their own judgment. Lastly, the patient never had the menstrual molimina.

Dr. HEYWOOD SMITH suggested that the Society should divide on the question of the sex.

Dr. FANCOURT BARNES added that the rectal examination was only digital, as he did not consider that it was justifiable to expose a patient to the risks and inconveniences inseparable from the introduction of the whole hand into the rectum.

The sixth case of Kolpo-Hysterectomy.

By Dr. F. A. PURCELL.

THE specimen exhibited is the entire uterus and its appendages and the growth. The body of the organ is larger than normal, and shows the stump after removal of the growth, which is close up to the internal os. Sections taken from above under the microscope showed epithelial cells, evidence of disease progressing upwards.

The growth which occupied the vagina was, when removed, about the size of a tangerine orange, now much shrivelled from the action of the spirit, is of an epitheliomatous character; the entire os and neck is lost in the new formation, the posterior lip being less so than the anterior, as denoted by where the glass rod is passed through the mass from above, the site of the os showing the disease more to the front.

The right ovary, when removed, showed two small cysts; the left is collapsed, which burst at time of removal. The fallopian tubes seem to be healthy. The following is the case, and the sixth performed by me:

Mrs. Annie H——, age 25, of Bristol; admitted to the Cancer Hospital on 26th March ultimo, was recommended by her medical attendant, Dr. Alfred N. Godby Gibbs, of the same town. She is the mother of two children, the last was born in September, 1886; her confinements were good, with good gettings up.

Dr. Gibbs wrote recently to say that her mother has now a scirrhus of the breast; the mother's uncle is believed to have died of cancer.

About six months ago patient suffered from a bloody discharge from the womb; has been regular in her periods. A growth was soon found occupying the vagina and attached to the os. On examination in hospital, the growth was found about the size of a tangerine orange, os and neck could not be made out; the walls of the vagina felt smooth and free of disease; the body felt larger than normal, all freely movable.

On explaining the condition of affairs, my patient expressed her wish for "the major operation to take the whole away," as recommended to her by Dr. Gibbs, and for which she had come up to London; however, I advised her to be satisfied with the minor operation, unless after removal of the growth I thought it justifiable to proceed to total extirpation; I intended to amputate on a line with the internal os after Schroeder's method.

On April 3rd she was anæsthetised, and having incised the mucous membrane above the disease, the growth was removed by means of the galvanic écraseur; after which the stump was examined as well as the growth, and it appeared as if disease was left behind, on this, I then decided to proceed to total removal of the uterus; this was accomplished with no loss of blood, both ovaries and the fallopian tubes were also removed; a clamp-forceps guarded each round ligament pedicle and allowed to remain on for the night. During that night two (quarter-grain) morphia suppositories were passed into the rectum to ease pain. The urine was drawn off regularly, and she was allowed Brand's essence of beef—a teaspoonful at the time. The next morning the pad was found very slightly soiled, the forceps were then removed, and a Tait's glass drain was inserted. At midnight of the second day after operation, a dark coloured discharge, almost having a fœcal smell, came away per drain; the vagina was now douched out with iodined water, and this was repeated every four hours.

Third day.—The discharge was less and not so offensive, the left labium now showed a slough; the discharge from this corresponded to that per drain, parts having been burnt by the galvanic wire.

Fifth day.—The bowels were moved; the discharge showed more purulent and found to travel down outside the tube; complained of abdominal pain, none on pressure, evidently from flatulency, and which was relieved by turpentine flannels; diet increased.

Seventh day.—Bowels moved; at noon she partook of some jelly brought to her by her husband, soon after taking it

her temperature jumped up to 102.6 F. which, however, gradually came down to 99° by midnight; this was attributed to the jelly.

Eighth and ninth days the vaginal discharge became less; now allowed boiled fish, tea besides her beef-tea, and bread and butter. Temperature normal to subnormal, is convalescing and cheerful. The vaginal douches having been persistently carried out; and the urine drawn off by catheter.

Twenty-second day (25th April).—She is up and walking about the ward for the last three days; little or no discharge; appetite more than good, is in every way happy and contented, and intends to return to Bristol this week.

Dr. EDIS pointed out that the patient was only 25 years of age, and was suffering from an otherwise incurable disease. The specimen showed clearly enough what was the nature of the growth. Under such circumstances total extirpation seemed justifiable in order to relieve it. It was an axiom of conduct in these cases either to remove everything, or else to do nothing, and he thought it was a motto to be closely followed.

A Method of Treating Incontinence of Urine in the Female, in Cases hitherto considered to be beyond the Resources of Surgery. By WILLIAM ALEXANDER, M.D., F.R.C.S., Visiting Surgeon, Liverpool Workhouse Hospital, Honorary Surgeon Royal Southern Hospital, Liverpool.

INCONTINENCE of urine from paralysis or destruction of the urethra has, up to the present time, proved itself one of the most disagreeable and incurable affections to which women are liable. Thanks to the labours of Marion Sims and others, urinary fistulæ are no longer incurable. Where, however, the urethra is absent, or its sphincter action is lost, the ordinary operations for the cure of fistula fail, and nothing remains but the contrivances alluded to by Harrison in Ashurst's "Surgery," in the following words:—

"It will be necessary for the patient to wear some contrivance by means of which the urine can be collected as it escapes from the urethra. Bags made of india-rubber, which may be concealed under the clothes, will be found best adapted for the purpose. Unless great care be taken in keeping these bags clean, they are apt to become very offensive."

These statements apply most favourably to the male. In the female it is well nigh impossible to keep the patient dry by means of bags. Some urine always escapes past the side of the apparatus, and creates the stench, the moisture and the scalding, that seems inseparable from the disease.

I read somewhere a few months ago a series of cases where incontinence of urine was the prominent symptom. Various operations succeeded in curing them all save one. This patient was discharged as beyond the resources of surgery.

Although fortunately such cases are comparatively few in number, they would, I think, prove to be more numerous than we could anticipate if all our workhouses were ransacked, and all the shy and retiring sufferers discovered.

Concealment of their infirmity and seclusion from society are the accompaniments of the disease, and for these two things the poor sufferers live.

The writers upon the cure of urinary fistula have referred in appropriate terms to the misery associated with urinary incontinence, and we need not here say anything more about that, but proceed to describe its cure and the kind of cases referred to.

Such a case came under my care in the person of Mrs. D., æt. thirty-five years, who was admitted to the Liverpool Workhouse Hospital, on June 6th, 1885, suffering from incontinence of urine.

She says that she was an actress, who had two miscarriages—no full grown children. She ascribes her illness to retention necessitated by her life on the stage, having to retain her urine for a whole evening without possibility of relief. When an opportunity of ameliorating presented itself, she often found herself unable to pass any water for a long

time. Gradually the bladder became irritable, so that she would have to run to pass urine. Sometimes she would be surprised and wet her clothes. Ten or twelve months before admission the incontinence was complete and permanent, and she was wet by day as well as by night. On examination the urethra was found quite patulous and capable of admitting with ease the index finger, being thus in excess of the amount of dilatation regarded as safe by the experiments of Simon of Heidelberg. The outer extremity of the urethra was very wide indeed, and all evidence of sphincter action was absent; otherwise a strong, vigorous, healthy woman. This dreadful infirmity was much felt by the patient, and she said she was prepared to undergo any amount of "punishment," if by any means she might be cured.

Strychnine, belladonna, cold baths and tonics were tried in vain; escharotics, cauteries and galvanism absolutely failed; the urethra was closed by operation, so that its diameter did not exceed a No. 3 English catheter; but the dribbling still continued though in a smaller stream, and her bed was still wet by night as well as her clothes by day. A special urinal failed to afford her any real mental or physical comfort.

Had the hospital been a general one, I would not have discharged her as incurable; but as she was in the Workhouse Hospital there existed no lower depth to which to consign her, and hence I was forced to keep her case and prospects before my mind.

I am inclined to think it would be good for all surgeons if they were forced to contemplate their "incurables" up to the final catastrophe, instead of being able, as at present, to relegate them to institutions for incurables, where they are out of sight and also out of mind. In my daily rounds I frequently saw this patient, and pondered much over her miserable state. She often stimulated my efforts by piteous appeals for relief.

One day I recalled to mind the case of a sailor aged about twenty-four years, who was admitted into the Workhouse Hospital nearly ten years ago, suffering from a badly set fracture of the left femur, and from a recto-vesical fistula that

had been produced, according to his account, during the reduction of the fracture. In his case the urine troubled him only in that he had to go to the closet more frequently, but he kept his bed dry, and his clothes were never soiled. In fact, we did not know about the fistula for a fortnight after his admission, and it was only when he was on the point of being discharged from hospital because we did not think it advisable to refracture the crooked thigh, that he told us about the fistulous communication. I closed the fistula, and he went out of hospital quite cured.

When I recalled the case to mind, my impression was that before the operation this patient was in a much more comfortable position than Mrs. D., and one likely to be less irksome to a woman than to a man, because the former live more at home and are, consequently, always nearer the usual conveniences. I explained to the patient that I had thought of an operation by means of which she would be able to keep herself dry, but that the proposed re-arrangement of organs would probably necessitate a frequent visit to the closet, and the having to get out of bed often during the night.

She said she was prepared for anything if by any means her infirmity might be removed, and I immediately commenced what I felt would prove to be a difficult task. I first attempted to fix the urethra into the wall of the rectum. To do this I released the upper or anterior surface of the urethra from its connection with the pubic arch, and then denuded completely the whole external surface of the urethra except a small piece round the orifice.

The third part of the operation consisted in making a slit into the rectum through the apposed vaginal and rectal walls, and through this slit the denuded urethra was drawn. The mucous membrane of the rectum was stitched by fine silkworm gut sutures to the urethra close to its opening, and the mucous membrane of the vagina was also stitched closely around the urethral neck. A catheter was passed into the bladder through the anus and urethra, and retained in position. In this way the urine was drained into a receptacle as fast as it came into the bladder.

On the third day all was going on well, the bed was quite dry and the urethra apparently adhering to the rectal wall. The catheter was, however, producing intolerable irritation of the anus and had to be removed. The bowels moved and the rectum and urethra parted company. The slit into which the urethra had been stitched immediately closed.

A second similar attempt shared the same fate, although it seemed nearer a success before the connections broke down. The causes of failure were twofold: (1) The urethra tended to come forward to its original and natural position under the arch of the pubis, and (2) the movements of the rectum tended to withdraw that viscus from the rather forward position in which it was restrained by the stitches.

The third and ultimately successful attempt was made in the following way. The urethra was denuded in front and laterally only, and was stitched into the rectum in front and at the sides but not behind. The labia minoræ, clitoris and perineum, in fact, everything in front of the attached urethra were denuded up to the middle of the labia majoræ; and the whole vulvar region was then filled up completely by the labiæ majoræ being drawn into the space and united firmly to each other by numerous fine silkworm gut sutures. The urethra was thus pressed well back and firmly supported in its place, and the rectal wall at the same time held forwards by these stitches that passed through it.

A catheter was passed as before for three days, by which time the edges of the wound had adhered. The urine then flowed freely into the rectum and dribbled away every half hour or so upon the cotton wool placed to receive it. To make a long story short the labiæ permanently adhered to each other throughout the whole extent, and was quite water tight with the exception of a stitch track through which some urine trickled when she stood up. This track was rather difficult to close, but was finally healed through injecting into it daily an ointment composed of iodoform, carbolic acid and eucalyptus oil, so as to fill it completely. After injecting this for about a fortnight the sinus, to my great relief and satis-

faction, closed. I say relief and satisfaction, because I was afraid of making the sinus larger by operation and so spoiling what was already a comfortably satisfactory case, and yet the sinus just prevented the result from being as perfect as I would have wished. Its closure under the iodoform ointment has made the case perfect. Diagram No. 1 shows the natural condition of the parts concerned.

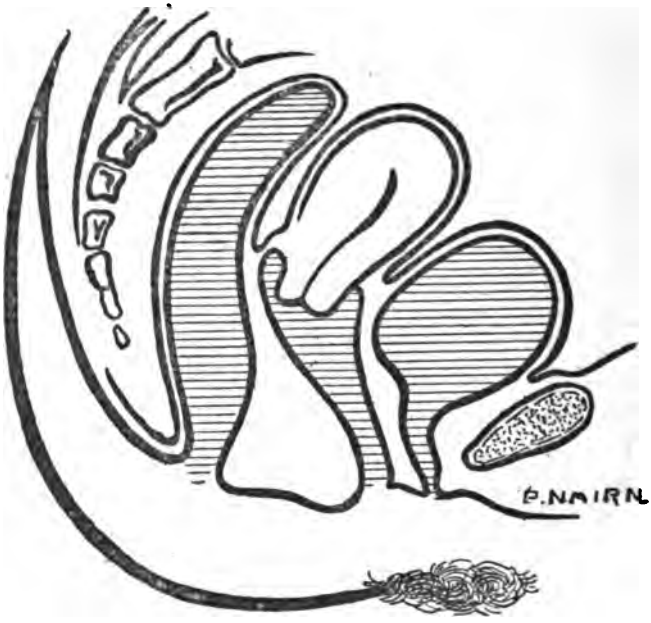


FIG. 1.

The next diagram (No. 2) shows the altered condition of this woman's urinary organs. She has only one external aperture instead of three. The urethra opens into the rectum and just behind the urethra is a small fissure through which any uterine or vaginal secretion may also find its way into the bowel. She has ceased to be unwell for about a year.

Externally the labiæ majoræ look as if they were quite natural, until on attempting to separate them their adhesion

to each other is found out and the cicatrix comes into view. On passing the finger into the rectum, the opening of the urethra can be felt with difficulty just above the internal sphincter. The difficulty of feeling it arises from the way in which the folds of the rectum cover it over. These folds seem so disposed that it would appear very difficult for gas to pass into the bladder from the bowel. The woman can now hold her urine for upwards of four hours, and has only to

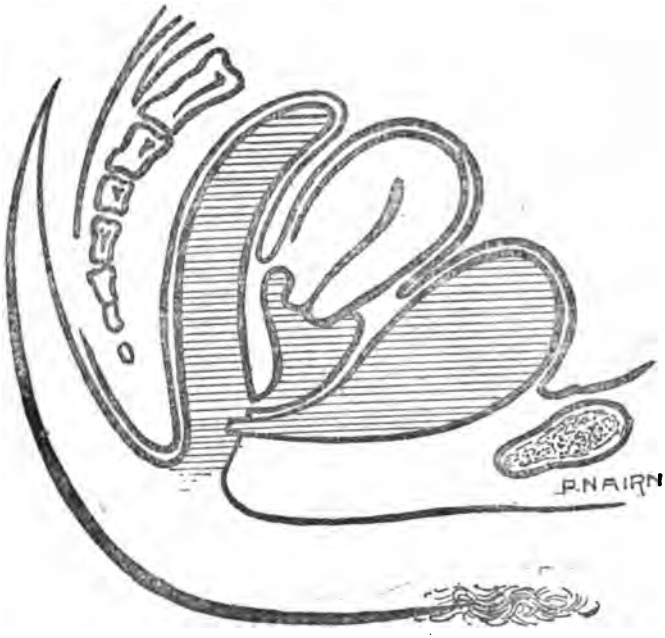


FIG. 2.

get up two, three, or four times during the night. She does not complain of any trouble arising from the entrance of air into the bladder. In fact the success far exceeds my most sanguine expectations. The only thing she complains of is pain along the intervulvar cicatrix and tenderness on touching it at one point, but the skin is quite natural and the pain is, I

believe, due to the withdrawal of morphia, of which she required a good deal during the long course of her treatment.

I cannot sufficiently commend the courage of this poor woman. That she underwent so many painful operations shows how miserable was her condition, and that she considered no means too desperate that offered any escape from it.

FIG. 3.

Whilst this patient was undergoing the attempt at relief which resulted in a cure, I had another patient, æt. fifty, in hospital, whose urethra had completely disappeared from sloughing. The sloughing arose from inflammatory action ensuing on an attempt to cure a cystocele some two years before. The inflammatory action was caused by the indiscreetness of the patient who became maniacal after chloroform,

got out of bed and so irritated the wound that phagædenic action set in. A small piece of the urethra was then left, but a plastic operation intended to close the fistula, terminated through the same causes in a wider gulf and the complete destruction of the urethra. The physical condition of the pelvic region of this patient before operation is shown in the following diagram, where the urethra is absent and the bladder opens into the vagina by a wide gap.

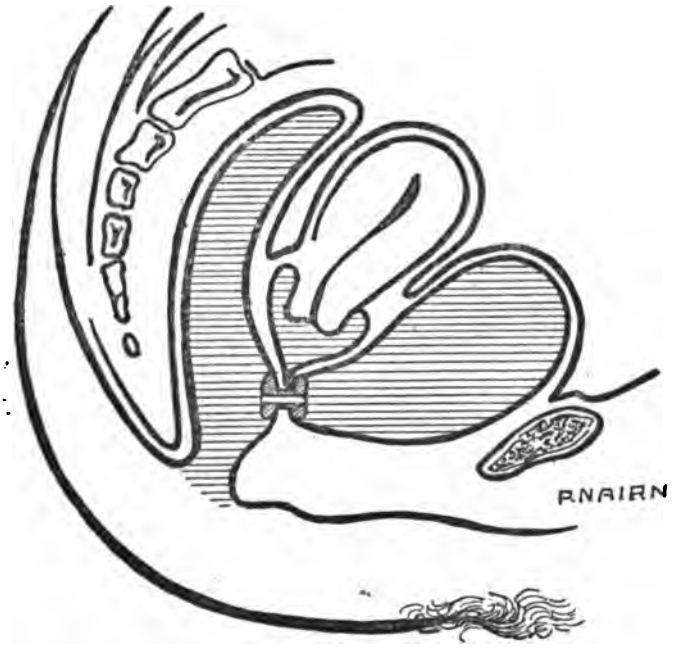
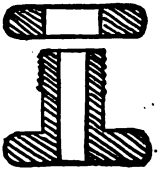


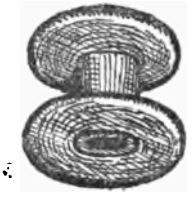
FIG. 4.

I tried to close up this woman's bladder anteriorly and to draw the bladder through the rectum, but the patient was utterly unmanageable, and soon after operation on two occasions, sent all the tubs flying about the ward and cleared herself as completely as the "Davenport Brothers" of all bandages and dressings.

When Mrs. D. turned out a success, Mrs. K. (whom we had in the meantime consigned to the crib wards) became very repentant and begged that another attempt should be made upon her. After some cogitation as to the best method, I performed the following operation on April 5th. The anus was forcibly dilated till the sphinter was paralysed. My left fore-finger was then placed on the trigone of the bladder, and the base of the bladder pushed backwards and downwards into the rectum by the finger, until it protruded the mucous membrane of the rectum into the shape of a cone rendered quite visible by a duck bill speculum inserted into the bowels. I cut down upon my finger from the rectum until the top of the finger appeared, I then substituted this part of the special vulcanite stud that I had made, into the place occupied by my finger, pushing it through until the threaded end appeared in the rectum; upon this threaded end I screwed the other end of the stud, and the communication between the bladder and the rectum was complete.

Fig 5





The labiæ minoræ were now separated from the labiæ majoræ all round turned in as seen in the next diagram, so as to turn their epithelial surface towards the bladder, and the labiæ majoræ were brought together over them thus apposing a double wall against the urine. Iodoform was dusted over the wound and plenty of cotton wool placed behind to absorb any discharge from the bowels. When the operation was finished urine was flowing freely into the rectum by the artifical aperture. The patient was very comfortable and all

went well for a week. A little oozing of urine appeared at a stitch aperture above and below. On attempting to catheterize the stud I found it quite blocked with calcareous matter and had to remove it. I have now a drainage tube into the bladder through the rectum which drains very well. The labiæ are united except above and below, and these

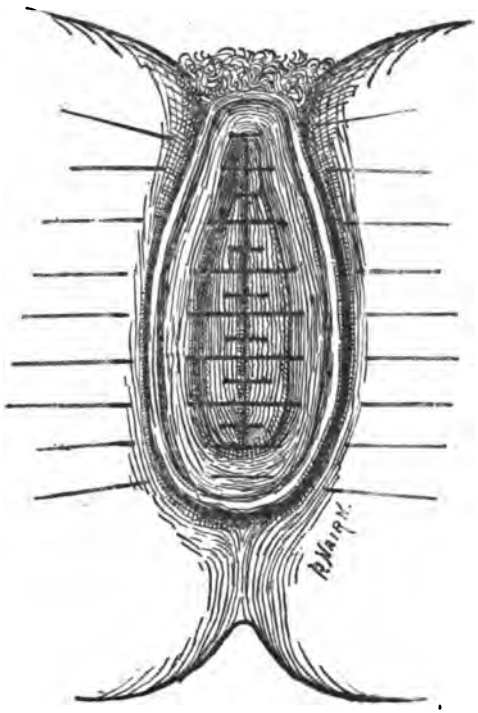


FIG. 6.

apertures are closing; with a little more care I have no doubt the patient will become as great a success as her predecessor; when complete, the condition of parts in the patient will be represented by this diagram.

One aperture only leads from the lower extremity of the body, namely the anus.

The bladder and vaginal walls are approximated above spot by the tube, which will be temporary until the anterior barrier is water-tight. If any trouble then arises with the tube it can be removed, and the urine can then be trusted to maintain the only aperture available.

The vagina and uterus open into the bladder and any secretion formed there will pass into the rectum through the bladder opening. The menses have long ceased, so that no discharge from that source need be taken into consideration.

Remarks.—The usual text books on surgery are silent upon any methods of relief, except urinals in the cases described; and I was surprised that no one seemed to have previously thought of utilising the anus sphincter to produce periodicity in the evacuation of the urine. In birds and monotrems the conditions exist, and these animals void their urine periodically with their fæces. But we are not always able to argue that conditions possible in animals will be so in man, and the case of the sailor put me on the right track, because his was a case in point. Of course his condition was inferior to the natural condition, and therefore his opening was closed, but in Mrs. D.'s case the new arrangement does not seem so very inferior to the old.

In looking through Ashurst's "System of Surgery" a few days ago, I stumbled by accident upon some operations similar to mine performed for extroversion of the bladder. At page 336, it is described how Messrs. Lloyd and Holmes tried to make a communication between the bladder and the rectum. The former used a seton with a fatal result from injury to the recto-vesical pouch of peritoneum. Mr. Holmes established the communication by means of a pair of screw forceps that caused a slough, and secured an aperture by the separation of the slough. Mr. Holmes, however, did not appear to pursue his success to the end. His artificial recto-vesical aperture seemed to close and the urine still flowed over the pubis; herein lie the chief difficulties of the operation. The bladder must be made quite water-tight everywhere, except at the aperture into the bowel. Nature seems

to work against us in two ways. The aperture into the bowel tends to close and the part that we want to close tends to keep open, and until these two things are done success will not crown our efforts.

In discussing this mode of treatment in ectroversion of the bladder, Mr. Harrison says :—

"Assuming that it is possible to establish the most complete and satisfactory communication between the rudimentary bladder or the ureters and the bowel, the degree of comfort which this arrangement would confer on the patient still remains undetermined whether the rectum is capable, in the human subject of adapting itself to the twofold office of bladder and bowel is, to say the least, problematical. In a case where the ureters opened into the rectum, the patient suffered from constant diarrhœa and irritation induced by the passage of urine into the bowel."

I do not know what will be the result of the application of the method that I have described to cases of ectroversion, but I think it is no longer problematical as to whether the rectum is capable of adapting itself pretty fairly to the twofold office of bladder and bowel.

Mr. Reginald Harrison has kindly given me his reference to the case as it appears in Gross, on the "Urinary Organs," p. 854. It is as follows :—

"Richardson has published, in the seventh volume of the Philosophical Society of London, the history of a youth who lived seventeen years without ever having micturated by the penis. He passed all his water by the anus, and the only inconvenience which he experienced was a slight but persistent diarrhœa."

I have not been able to find the seventh volume of the Philosophical Society of London, but I think the evidence from this notice of the case quite accords with my own experience. A person who passes water by the anus six, seven, or eight times a day may be said to have "diarrhœa," as probably a little fœces passes each time with the urine. As the "only" inconvenience was "slight" diarrhœa, I believe this

case was better than my own, and from it I anticipate longer retention in my two cases as the bowels become more and more accustomed to the urine. I hope at a future date to be able to record the more remote results of the operation which I trust will be still more favourable.

Dr. BANTOCK expressed his admiration for Dr. Alexander's patience and ingenuity. He said that it might be imagined that the presence of urine in the rectum would give rise to trouble, but it did not always or necessarily do so. Some ten years ago a patient came to him at the Samaritan Hospital, with a very bad sloughing of the bladder walls, and a large opening into the rectum. It was quite impossible to close either one or the other. He tried to diminish the size of the recto-vaginal fistula, which was as large as a halfpenny piece, but no tissue could be got anywhere. He then closed the vaginal outlet. The patient was still alive, and he had recently received a communication from her medical man, asking him whether he would take her into the hospital on account of some tumour, but he was obliged for various reasons to decline. There were many difficulties in the case when she first came under his care. The upper part of the rectum and vagina was filled with the hardest *scybala* he had ever seen, and he had had the greatest difficulty in keeping the bowels open. After the operation the difficulty was to get rid of the scybalous masses. The patient was sent home with a syringe to clean out the rectum as frequently as possible, and it was remarkable with what amount of comfort she had managed to live, at least in the interval.

Dr. AVELING said they could only admire the patience of Dr. Alexander, and the care and ingenuity which he had devoted to these distressful conditions. The first operation might prove successful, but in the majority of cases the urethra was not left intact—generally the greater portion of it was gone. He had endeavoured to treat several of these cases first of all by endeavouring to unite the vulva, with the same result, viz.:—that he never got perfect union. Then he had tried sewing up the mouth of the vagina. This was much

easier, but the great difficulties were, the formation of concretions in the bladder, and wherever the urine could arrive, and the closure of the artificial orifices which were made. This might be overcome to some extent, not by using a stud, which he was sure would have to be abandoned, but by constantly syringing out the bladder and using a dilator. Any operation was justifiable which could relieve women of this most loathsome of complaints.

Mr. LAWSON TAIT said there was nearly always loss of structure, rendering closure of the bladder an impossibility. The first time he saw the vulvar orifice closed on account of the destruction of the anterior and posterior vaginal walls was by Sir James Simpson in 1862, and he happened to be able to trace the woman's history afterwards. It was one of prolonged misery. What was reported as a "mild diarrhœa" amounted to irritation so excessive that the patient ultimately induced someone to undo the result of the operation. He had at present, a case in which he was endeavouring to close the vulvar orifice for a similar condition of things. But in one on which he had operated seven years ago, the patient had since had the operation undone she being unable to endure the condition of irritation of the rectum. In the second case he believed a somewhat similar condition of things had persisted. So far, therefore, the plan was an unsatisfactory one and patients were really not benefited by it. In spite of that he was attempting to close a third, in the hope that the condition of irritation might not be common to all these unfortunate wretches. If he found that the rectum would bear a mixture of fæces and urine, he would agree in the performance of Dr. Alexander's operation. As Dr. Alexander spoke, it occurred to him that a much better arrangement might be arrived at, by means of an operation requiring a little more mechanical skill, viz.; by turning the ureters into the rectum. He had three young women under his care, one of whom had paralysis of the urethra from rapid dilatation, and he thought he could dissect the ureters from the side of the uterus and turn them into the rectum. He said that Dr.

Alexander's operation unsexed the women with a vengeance. The removal of the appendages was nothing compared to it. He was surprised that it should have emanated from Liverpool.

Dr. MANSELL MOULLIN criticised the details of Dr. Alexander's operation. It was evident that the bladder, vagina and rectum inter-communicated with each other at the seat of operation. The patient therefore, was in no way benefited by the operation more than she would by the simple closure of the vulvar orifice and an opening made into the rectum. In either case the urine passed into the vagina.

Mr. LAWSON TAIT approved the objection which he said was fatal.

Mr. INGLIS PARSONS observed that Dr. Alexander's operations meant closing two openings instead of one.

Dr. AVELING said the stagnation of the urine in the vagina was a great objection.

Dr. ALEXANDER said that practically no urine went into the vagina at all. It went into the rectum and distended it. In reference to Mr. Tait's suggestion as to passing the ureteri into the rectum, he mentioned that two operators, Simon and Smith, had tried it, and in one case with the most disastrous results. Mr. Smith took one ureter into the rectum, it adhered, and then the woman had a good deal of renal disturbance for some months. When that had passed he diverted the other ureter, and then the woman died. It was found that the ureters probably got compressed at the point of entry into the rectum, which led to the formation of cystic kidneys. Mr. Simon's case was only partially successful.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, MAY 9, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 28 Fellows, 6 Visitors.

The following was elected a Fellow of the Society:—Dr. F. Wilson.

The following were proposed for election:—Dr. Henry William Powell, Dr. Ernest Henry Crisp, London.

Dr. FANCOURT BARNES shewed an infant, twenty-two months of age, the brother (or sister) of the person he had shewn at the last meeting. This child was the twelfth, and all the others, with one exception (the third), were normal. The appearances were absolutely identical with the subject shewn at the last meeting and curiously enough, the parents, as if to justify his employment of the word hermaphrodite, had decided, in the exercise of their own judgment, to bring up this child as a boy, whereas they had brought up the other as a girl. He remarked on the long interval that had elapsed between the reproduction of the same abnormality with the birth of several normally constituted children between.

Dr. BARNES said that the fact of a second child being born with the same abnormality showed the influence of heredity in these two cases.

Mr. RUTHERFOORD shewed a specimen of "infantile uterus," (congenital atrophy). It had been removed in the post mortem room from a girl, 18 years of age, who had never menstruated nor had any menstrual molimina or other sign, though well developed in other respects. In October, 1886, she had been admitted into the Brompton Hospital for bronchitis. In the following October she again applied for admission and was

then treated for phthisis and died the same month. Her father and mother died of consumption, as well as one sister. He said he had brought the specimen before the Society as shewing the effect of the tuberculur diathesis upon the ovaries which were small. They contained a single layer of germinal cells in the cervix, deeply down the fibrous tissue was extremely thick, and deeper still they came upon connective tissue cells with what remained of the follicles. In thirty sections not a single healthy graafian follicle was to be seen, at the most mere cicatrices. The tunica fibrosa and propria, &c., were represented by a sort of hyaline membrane, and the membrana granulosa was represented by a single layer of columnar cells. In no case was the ovum perfect, being mostly fatty. He thought that this showed the effect of the tubercular diathesis upon the ovaries.

Dr. EDIS mentioned that on the previous day he had seen a patient who came under his care three years before, never having menstruated, although she had been married two years. She had a small, ill-developed uterus. He passed a sound and then a stem pessary. Soon afterwards she menstruated for the first time, at 26 years of age. She came back subsequently because the flow had again ceased, but the same treatment caused it to return. What the condition was in that particular case he was unable to say, as the patient was still living. He said he had had a number of such cases, and the presumption was that a reciprocal influence was set up by local irritation giving rise to menstruation which might be beneficial in promoting the further development of the organs.

Dr. BARNES said the question was one of great physiological and pathological interest. The case seemed to shew that the atrophy was connected with dysmenorrhœa. In many cases, however, girls disposed to be consumptive, by no means lost the sexual appetite or function. He said that the enquiry was one which ought to be proceeded with on account of the interesting light which it threw upon the pathology of the question. He observed that in the specimen the tubes and uterus did not appear to have been opened up

to shew their condition, but as far as could be seen there did not appear in them any tubercular affection. Some cases of amenorrhœa, thought to be due to neglect of the bowels, constipation, &c., might be due to an atrophic condition. If the ovaries became diseased in this way they could not expect the uterine functions to be carried on.

Mr. RUTHERFOORD, in reply, added that he had found a large number of epithelial nests, but that the diseased follicles were principally to be noticed. He said that clinically such cases were common, but that pathologically such observations were comparatively rare. He thought it was the diathesis and not the actual tubercular condition which brought about the change.

Dr. BANTOCK showed a fibroid tumour from a patient, a single woman, 37 years of age. The operation was performed on April 28th. There had been a difficulty about the diagnosis. The case had been sent in as one of ovarian tumour, but in the hospital it had been diagnosed to be a fibroid, and he himself had ventured to go farther and to assume that it was located in the broad ligament. He did so from the fact that the uterus was pulled up out of the vagina and could be felt on the right side of the mass. He considered the pulling up of the uterus to be a diagnostic sign of great importance. The operation was one of some difficulty. As soon as he cut down upon the tumour it was seen to be covered by peritoneum, but there was no close connexion between the two. He made an incision into the peritoneal envelope and was enabled to enucleate the mass. But it was not till he had removed the tumour that he found out the relation of the parts. The tumour had evidently grown from the left aspect of the uterus, and in its growth the uterus had revolved from right to left so that the left ovary had been carried over to the right side. This had led him in the first instance to mistake the left ovary for the right, but he subsequently found them both lying together. The connexion with the uterus was simply scraped through with the handle of the scalpel and a number of bleeding vessels were tied on

the surface of the uterus. The sac was attached to the abdomen wound and drained. The result, so far, had been very satisfactory and there had not been a bad symptom. The track of the drainage tube was not quite closed but was very nearly so. No elevation of temperature. It was not often that one had a fibroid tumour with these connexions.

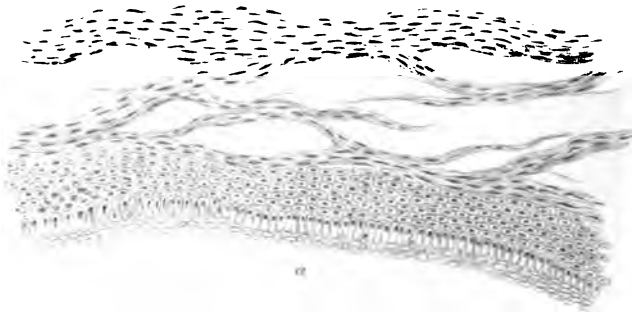
Dr. EDIS observed that the patient had been sent in as a case of ovarian disease. He had removed a *fac simile* from a girl only 23 years of age. That case had been diagnosed as ovarian, and it so far resembled it that they were quite justified in opening the abdomen to search for it. The patient did perfectly well. He mentioned that there was nothing in the way of dysmenorrhœa or amenorrhœa, to assist in the differental diagnosis.

Dr. ROUTH asked for some information as to the etiology. He said there was nothing in the history which would lead them to explain the cause. He asked whether the patient was married and whether she had been addicted to what, for modesty's sake, he called 'imprudent habits.'

Dr. EDIS said that in his own case the patient was married. Her husband had died a fortnight before, and he knew of no special proclivities.

Dr. BANTOCK, in reply, confessed that he was in perfect ignorance of the etiology of fibroid tumours in general, and of this case in particular. He said he knew nothing that would lead one to suppose that any one thing would give rise to such tumours more than another. As to the so called 'imprudent' habits he thought his patient was the last in the world to be suspected. So far as he was aware they had no notion as to the formation of fibroid tumours. The tumour he had removed was soft and had an amount of elasticity about it which might very well have been mistaken for fluctuation. He had omitted to mention that there had been no menorrhagia at all, but he had lived long enough to know that hæmorrhage was not an infallible symptom of fibroid tumour.

Dr. BARNES said that the occurrence of hæmorrhage in connection with fibroid tumours depended upon their relative



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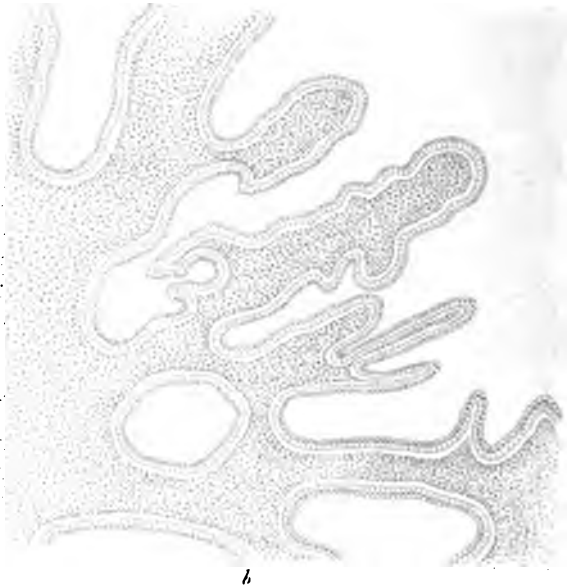

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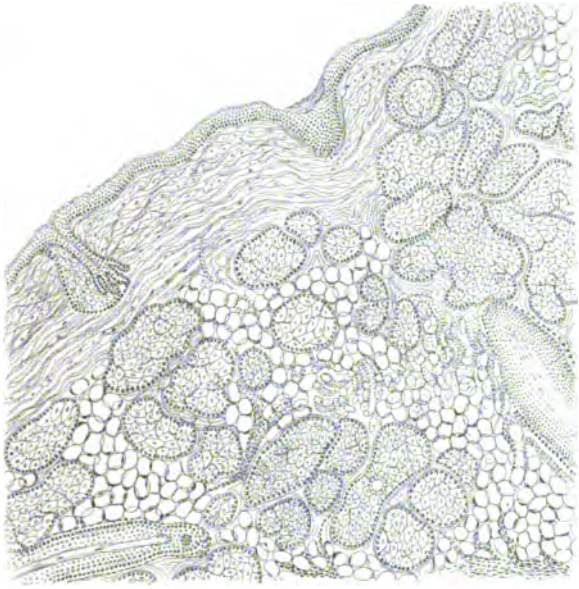

c

EXPLANATION OF PLATE.

a Section of the wall of a Graafian follicle, from the ovary of a mare, shewing the arrangement of the cells.

b A portion of the wall of an ovarian cyst, to shew the mucous glands.

c A section from an ovarian dermoid shewing the large size of the sebaceous glands. A few sweat glands are also seen in section.

seat in the uterus. If the tumour encroached upon the interior of the uterus, then there would be hæmorrhage, and also if it grew into the body of the uterus, whereas if it projected from the external wall, then hæmorrhage did not take place.

Mr. RUTHERFOORD asked what were the chief clinical symptoms.

Dr. BANTOCK replied, the rapid growth of the tumour and simple discomfort. There were no very definite clinical symptoms.

Report on Dr. Bantock's specimens of Ovarian Dermoids.

By J. BLAND SUTTON, F.R.C.S.

IN the early part of this year I received from Dr. Bantock several ovarian dermoids. During the same period many other tumours of a similar nature were placed at my disposal in a recent condition, and before they had lost their tissue-life. This material has been utilised by me in an investigation which I have been conducting into the nature of teratomata generally. I have in consequence transformed what is nominally a "report," into a small monograph concerning the pathological anatomy of ovarian dermoids, with an especial attempt towards elucidating their mode of origin.

The method adopted was the following :—

I. To ascertain, if possible, the portion of the ovary in which dermoids arise.

II. To find, and trace, if possible, intermediate characters between dermoids and other forms of ovarian cysts.

For both purposes it was absolutely necessary to receive fresh material and to be able to deal with the specimens as freely as one could wish.

The human ovary, and indeed that of most, if not all mammals, consists of three distinct parts, each giving rise to cysts presenting distinctive features.

These cyst-regions are :—

1. *The Oöphoron.* This is the region in which ova are found.
2. *The Paroöphoron.* This is termed by a few authors "the tissue of the hilum." It is composed almost entirely of mesonephritic remains (Wolffian body) in varying stages of retrogression.
3. *The Parovarium.* This represents the segmental tubes and duct of the mesonephros, and consists of three parts. A. *Kobelt's tubes.* B. The *vertical tubes* of the parovarium. C. *Gartner's duct.*

These three parts can easily be made out in the human ovary, and in the ovary of many of the higher mammals, but the proportion of the parts to each other vary considerably in different groups, and at the present time I am engaged in investigating this question.

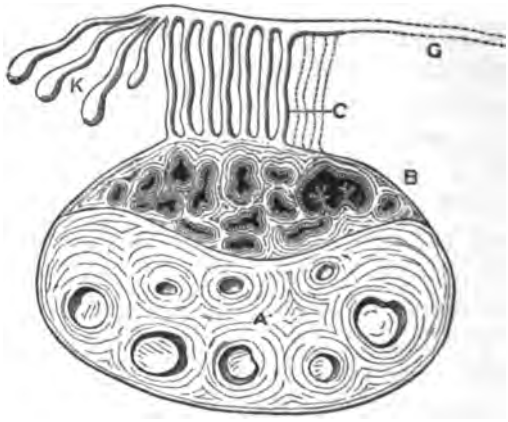

FIG. 1.

A diagram representing what may be called the *cyst regions* of the human ovary. A, Oöphoron, B, Paroöphoron, C, Parovarium, with K, Kobelt's tubes and G, Gartner's duct.

These various parts are diagrammatically represented in fig. 1. The cysts which arise in connection with the ovary and parovarium may be conveniently arranged in three groups according to the reigon in which they arise :—

1. *Oöphoron.* Unilocular Cysts. Multilocular Cysts. Cystic corpora lutea. Dermoids.
2. *Paroöphoron.* Papillary (proliferous) Cysts.
3. *Parovarium.* Parovarian Cysts. (A.) *Kobelt's tubes.* Pedunculated Cysts hanging from the broad ligament.

My first efforts were directed towards ascertaining the relation of dermoids to these three regions of the ovary. In all the examples of ovarian dermoids dissected for the purpose, it was easy to demonstrate that the parovarium was unconnected with them, but in several cases this structure differed in minor particulars from the usual arrangement of the tubules. Another interesting fact was the frequent association of malformation of the Fallopian tube with dermoids. In some cases there was an accessory abdominal ostium; in others the tube would have no abdominal opening whatever.

These conditions have but little bearing on the pathology of ovarian dermoids, for they seem to be quite as frequently associated with other forms of ovarian cystomata.

It now became necessary, seeing that ovarian dermoids have no connection with the parovarium, to ascertain as far as possible to which district of the ovary they belong. When a cyst attains a large size this task is an impossible one, but in dermoids of the size of a walnut, and sometimes when they are as large as an orange, it is easy to shew that they originate in the oöphoron, and a series of observations carried out for this purpose has had the result of convincing me that ovarian dermoids arise in the same portion of the ovary as multilocular cystic tumours. These cysts arise in Graafian follicles, and it is my intention to procede to shew that ovarian dermoids also arise in these follicles.

Having localised the situation of ovarian dermoids to the oöphoron, the task became simple, but laborious, for it involved a large amount of histological work.

The best mode of demonstrating the origin of multilocular cysts in the oöphoron is to make a section of the ovary of an

old mare, as in fig. 2. The paroöphoron in this mammal is very large, and easily distinguished; the parovarium is represented by a cluster of tiny cysts, underlying the abdominal end of the oviduct. The oöphoron is invariably occupied by some dilated follicles, cystic corpora lutea, or both. The dilated follicles are easily distinguished microscopically in their early stages from cystic corpora lutea, as the former exhibit the well-known membrana granulosa. Cysts arising in corpora lutea probably rarely attain very large proportions. They occur very frequently in the cow, mare, and occasionally in the human female, and probably in the ovary of other mammals.

In the early stages cysts arising in corpora lutea are easily recognised without the aid of a microscope, on account of the peculiar yellow tissue which forms the wall of the cyst.

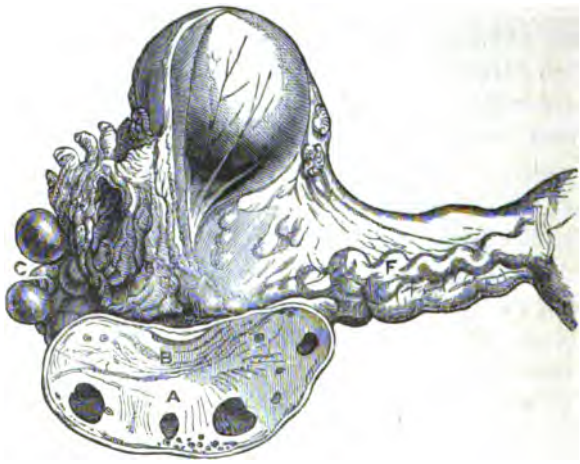

FIG. 2.

The ovary of a mare. A, Oöphoron, B, Paroöphoron, C, Parovarium, F, Oviduct. The abdominal end of the tube is stretched by a large parovarium cyst.

The multilocular cystic tumours arise in dilated follicles, and a typical specimen is shewn in fig. 3. This tumour was taken from a mare, and weighed 84 lbs. The cysts are con-

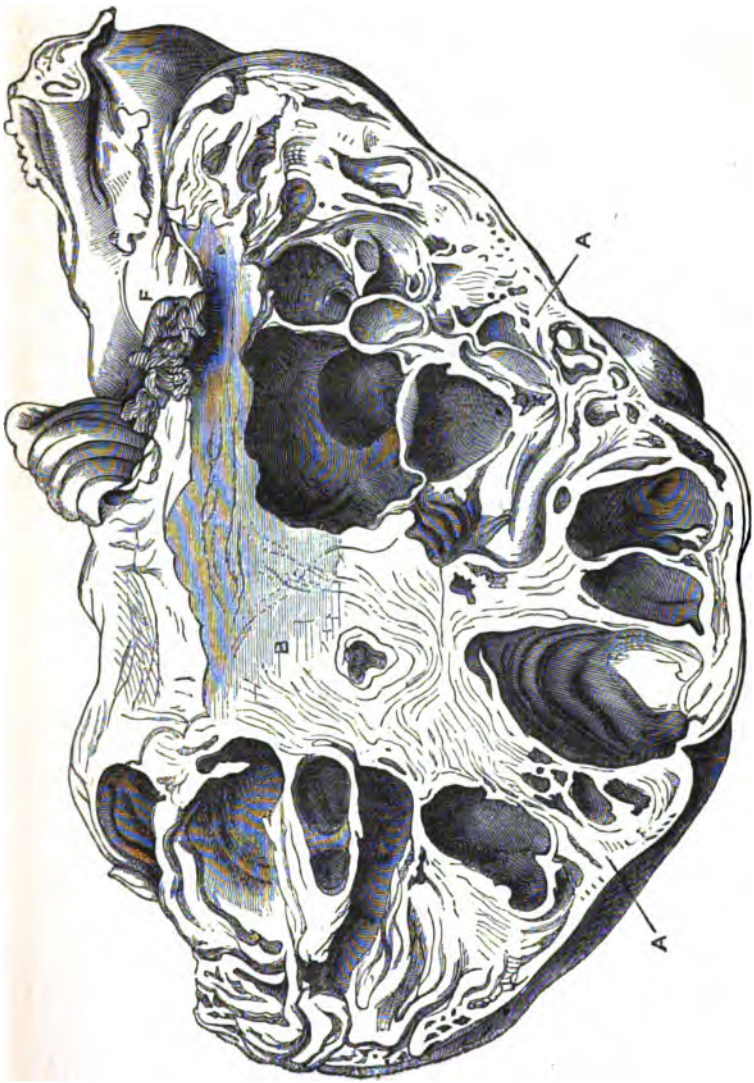

FIG. 3.

Transverse section of an ovarian tumour which weighed 84 lbs. A, Oöphoron, B, Paroöphoron, F, Extremity of the Fallopian tube.

fined to the oöphoron, and many of them exhibit glandular tissue in their walls. The paroöphoron is considerably enlarged, but contains no cysts. It is easy to understand why the distinction is so obvious in this case between the two parts of the ovary, because, as has already been mentioned, in the normal mare's ovary the paroöphoron is relatively very large; in the adult human female it is relatively as well as absolutely small.

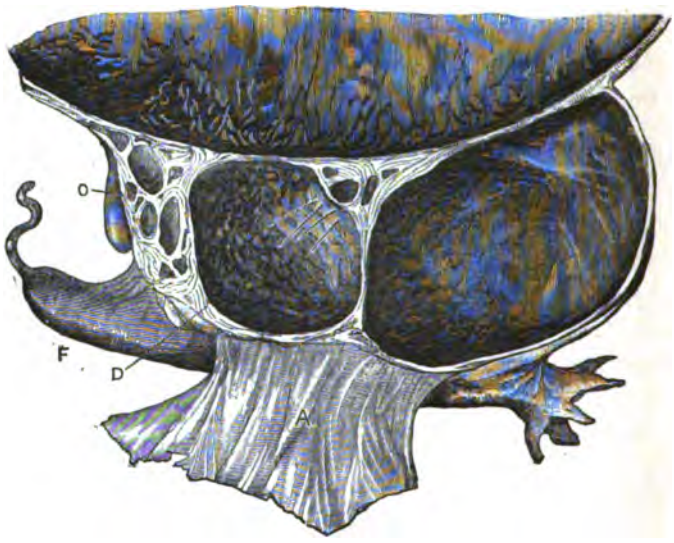

FIG. 4.

A section of the pedicle of the tumour. O, Ovarian tissue with cysts. D, Dermoid with glands and hair. F, Fallopian tube. A, Omentum. *See this* JOURNAL, Part XI., p. 362.

As we are able definitely to determine the origin of oöphorite cysts in general from the Graafian follicles, it is necessary that we should compare their histological features with dermoids and analyse their points of agreement and difference. When an ordinary oöphorite cyst is compared with a typical dermoid the difference is very striking. In the simple non-dermoid ovarian cyst we find the interior lined by

a single layer of flattened epithelium, and this may be difficult of detection. The dermoid, on the other hand, may present skin, hair, sweat and sebaceous glands, teeth, and even a mamma.

Should the non-dermoid ovarian cyst be multilocular the individual cavities may, if not too large, present a membrana granulosa; in the dermoid the loculi are lined with skin. furnished with hair, &c.

Occasionally we find a multilocular ovarian cyst and one little loculus may present a small patch of piliferous skin. Such a combination is far from rare. Fig. 4.

If we select a highly organised multilocular ovarian cyst, and one of the simplest ovarian dermoids, we shall find that in complexity of tissue the former far exceeds the latter. The glandular cyst presents us with the most perfect columnar epithelium, which not only covers the interior of the cyst but dips into the underlying tissues and forms mucous glands of great complexity, and when suitably stained forms striking objects under the microscope. Between cysts, lined with simple flattened epithelium, and those presenting glandular masses, every gradation may be traced. The lining membrane of some of these cysts is indistinguishable from mucous membrane.

The cystic spaces, described by Dr. Wilson Fox in his well-known paper,[1] as being formed by the coalescence of adjacent papillæ, are, as a matter of fact, in most cases acini of mucous glands. The larger ones are retention cysts, and are analogous in structure to similar cysts occurring at the cervix uteri and in connection with the labia. It may also be mentioned, as tending to show the close connection between ovarian glandular cysts and dermoids, it is no unusual thing to find mucous cysts in the smaller loculi in the walls of dermoids. We must now proceed to consider the simplest form of an ovarian dermoid. If a cyst in the ovary presents the smallest piece of skin, furnished perhaps with only two or

[1] *Medical Chirurgical Transactions*, vol. xlvii. p. 227.

three hairs, its dermoid character is established. The presence of a tooth without any skin is sufficient.

As a matter of fact every gradation may be traced from the membrana granulosa of an ovarian follicle to the glandular cutaneous lining of a dermoid. In some specimens the epithelial investment is indistinguishable from that lining a unilocular cyst, yet in one small portion of the cyst wall a few hairs on a patch of skin place them in the category of dermoids.

In fig. 5 a section of an ovarian dermoid is shown, in which four teeth were present, but though sections were made from many portions of the cyst wall no cutaneous elements could be detected, though examined repeatedly by the microscope.

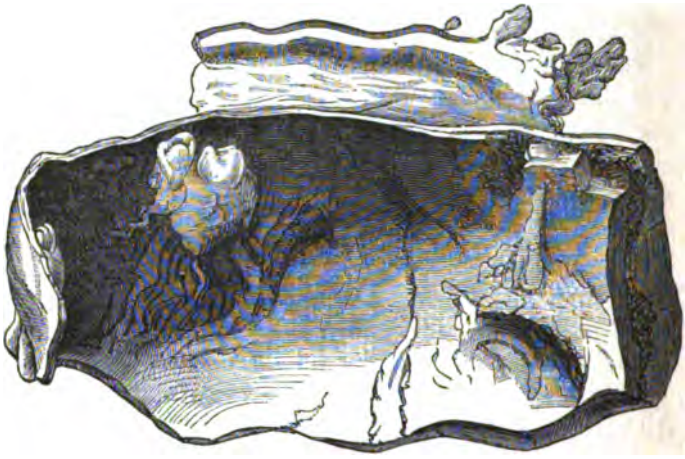

FIG. 5.

Portion of an ovarian cyst containing teeth, but no skin elements could be found microscopically.

In another specimen the cyst was as large as a melon, and a patch of skin the size of a gooseberry, furnished with a lock of hair twenty inches long, and innumerable sebaceous glands, was the only evidence of cutaneous tissue. Sections

FIG. 6.
An ovarian dermoid with a lock of hair twenty inches long.

taken from the wall of this cyst, away from the neighbourhood of the hairy patch, were indistinguishable from a simple ovarian cyst. The microscopical characters of the skin in this specimen are shewn on plate II, fig. c.

Thus far we know that ovarian dermoids resemble non-dermoid ovarian cysts in that they usually consist of one large cyst surrounded by numerous smaller ones. We have already seen that a multilocular cyst of the ovary may present only one tiny patch of dermoid tissue, though the tumour is composed of a multitude of cavities great and small. There are good grounds for the belief that if all multilocular ovarian tumours were systematically examined, patches of dermoid tissue in the cyst would be found to occur with very great frequency. Lastly, an ovarian dermoid may be multilocular, all its cavities presenting skin, hair, or teeth, or all three structures in the same cyst (fig. 7).

Thus in the general disposition of the cavities, single, multiple and mixed, dermoids and non-dermoid ovarian cystomata are in agreement.

The most highly organised ovarian dermoids are those which contain a well-developed mammary gland capable of secreting a fluid resembling milk. The most remarkable specimens of this nature that has yet come under my notice occurred in a cyst which Dr. Bantock sent me, and will be fully described in the *Transactions Pathological Society*, Vol. xxxix.

In plate 1 three drawings are given representing the epithelium lining, a normal Graafian follicle; its disposition in a multilocular cyst of the ovary, and in a complex ovarian dermoid. The microscopical appearance of the acini of the glandular tissue taken from an ovarian dermoid is given in fig. 7. In this case the tissue not only resembled the normal mamma in shape and appearance, but also in the

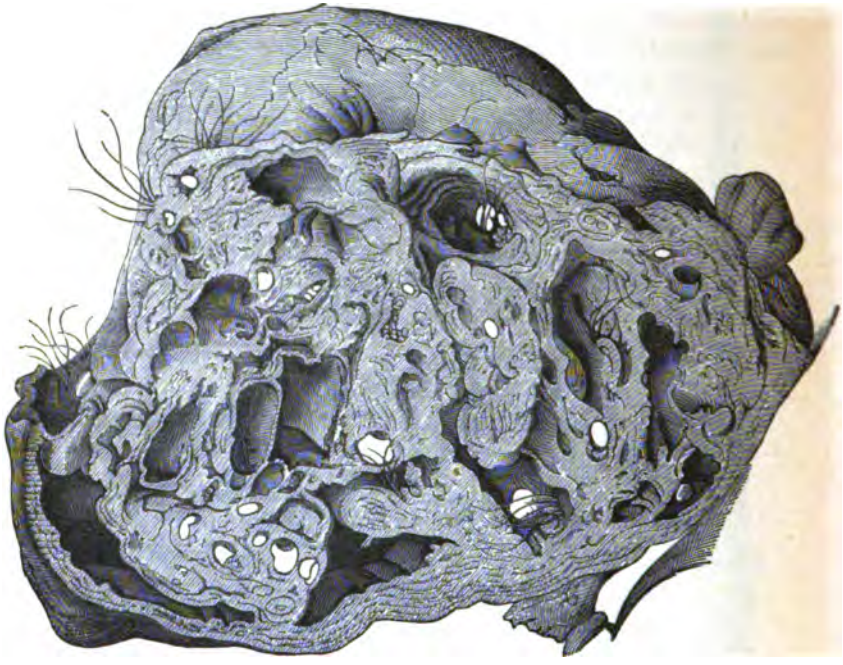

FIG. 7.
A multilocular ovarian dermoid tumour.

arrangement of its ducts and acini, as well as in the shape of the epithelium lining the recesses in typical cases. In well-marked cases the mamma may even furnish a fluid presenting all the physical and microscopical characters of milk.[1]

[1] For further details of these mammæ, see *Pathological Transactions*, vol. xxxix.

The histological characters of the skin found in ovarian dermoids differs in many ways from that covering the exterior of the body. The epidermis is extremely thin, and it is rare to find papillæ. The sebaceous glands are of very large size and many of them very dilated, as though there had been difficulty in getting rid of the secretion. Sebaceous retention cysts are not uncommon; the sweat glands do not present the twisted ducts with which we are so familiar in true skin. The hairs too, for the most part, are of very simple structure and resemble lanugo.

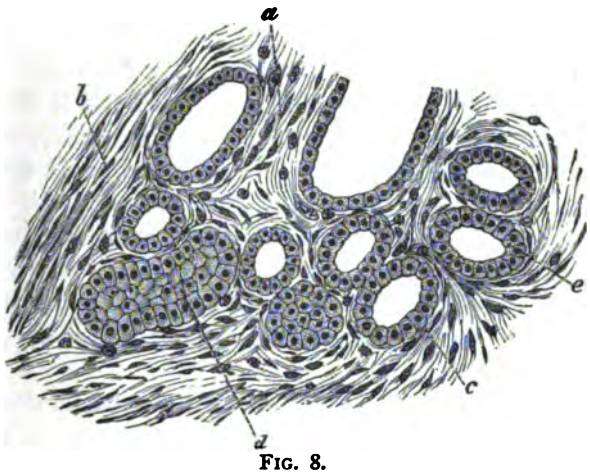

FIG. 8.

a, Connective tissue. *b*, Unstriped muscle fibre. *c*, *d*, and *e*, Acini and ducts lined with cubical epithelium.

The histological characters of a mamma from an ovarian dermoid (after Velits).

One of the first objections which, I can foresee, will be urged against the opinions put forward in this paper is this: It is contrary to ordinary teaching that the epithelium of a Graafian follicle is capable of undergoing such variety of shape. But epithelium may change its characters, and a ready method of demonstrating it exists in uterine myomata. When a submucous myoma projects into the uterine cavity its surface is covered with columnar ciliated cells. If later the tumour pro-

trudes beyond the vagina, the surface cells will become stratified, whilst those cells lining recesses in the mucous membrane of the exposed parts retain their columnar ciliated condition.[1] Similar changes may be studied in the mucous membrane covering the surface of piles.

Again, no one who has studied the anatomy of the various forms of ovarian cystomata can doubt that the multilocular cystomata arise in Graafian follicles. Yet it would be difficult to distinguish between the epithelial lining of many multilocular cysts and the epithelium of a mucous membrane, even to its glandular recesses. If such a complex cyst as this can arise from a Graafian follicle, surely we cannot deny the origin of a dermoid from the same source, for skin and mucous membrane are fundamentally identical. Skin covers the exterior of the body, has sebaceous glands, and is furnished with hair. Mucous membrane lines the internal cavities of the body, and has mucous glands. In some mammals, the hare, the buccal mucous membrane is furnished with hair on the inside of the cheek. On the other hand, mucous membrane may have sebaceous glands, as, *e.g.*, that covering the nymphæ.

In order to obtain teeth in a cyst lined with mucous membrane we need calcify some of the cellular projections, and a dermoid is the result.

Calcific patches and cartilage are not peculiar to dermoids, they have been seen in non-dermoid ovarian cysts. Finally, although there are striking differences between simple ovarian cysts and complex dermoids, nevertheless the difference between a complex ovarian cyst and a simple dermoid is practically *nil*, and, as a matter of fact, the glandular ovarian cysts are often structurally more complex than many dermoids, and I see no escape from the conclusion that *ovarian dermoids, like oöphoritic cysts in general, originate in Graafian follicles.* The chief reasons may be summarised as follows:—

I.—The localisation of multilocular cysts and dermoids to the oöphoron.

[1] *See Gervis, Obstetrical Society Transactions*, 1887.

II.—The frequent association of a dermoid with a multilocular ovarian cyst.

III.—The extreme frequency with which dermoids occur in the ovary can only be accounted for by some functional peculiarity. The only peculiarity it possesses in this respect is the formation of Graafian follicles.

IV.—Transitional stages can be traced from the membrane granulosa to mucous membrane, mucous glands and teeth on the one hand, to skin, glands, hair, teeth, and mammæ on the other.

It must be borne in mind that a distinction exists between dermoids occurring in such situations as the angle of the orbit, tongue, neck, &c., and ovarian dermoids. Finally, it is high time that some explanation should be offered to account for the origin of ovarian dermoids, which shall be more satisfactory than such expressions as :—*Fœtus in fœtu*, *pan genesis*, *parthenogenesis*, *excess of formative nisus*, *hypererchesis*, and other guesses, equally vague and unsupported by facts.

N.B.—My investigations are still in progress, and I should be pleased to receive fresh dermoids from any surgeon who will kindly forward them to me.

Dr. BANTOCK expressed his high appreciation of the clearness and lucidity of Mr. Sutton's remarkable exposition. The pathology of ovarian tumours had been hitherto about the most hopeless muddle of anything connected with the profession. He knew of no book treating of the subject of the pathology of the ovary in which that part of the book was worth the paper on which it was printed. Nothing could be more confusing or more unintelligible. Mr. Sutton, however, had given them an exposition of views which they could understand, which were simple in their conception, and which commended themselves to their common sense. He felt sure that they would prove to be the correct explanation of these very remarkable things, dermoid cysts. If the pathology of the ordinary ovarian tumour had been a puzzle, the pathology of dermoid tumours had been vastly more puzzling. Such

words as parthenogenesis, &c., were only cloaks for ignorance. He was not a pathologist, but he really felt an interest in having something brought before his mind which he could understand. He could not refrain from referring to one of these theories to account for the formation of cysts, and that was the theory of the late Wilson Fox, in which tumours were supposed to result from union of papillæ, that is to say, the coalescence of a number of papillæ. He asked whether anything could be more far-fetched than such an idea.

Dr. DICKINSON observed that Mr. Sutton had drawn attention to the formative power of epithelium in the pathology of ovarian cysts; he mentioned, for instance, that a tumour growing from the uterus was first covered with ciliated epithelium, and on passing down through the cervix had become covered with stratified epithelium. He himself had seen a case of a negress in whom an elongated cervix projected some distance through the vulva. Inside the vulva it was covered with simple pink mucous membrane as usual, but outside it was skin-like in appearance, and intensely black like the rest of her skin, shewing that epithelium might not only alter its character as regards its form, but might even take on an abnormal formative power in the deposition of pigment.

On Cystic Disease of the Cervix and Endometrium.

By RICHARD T. SMITH, M.D.

THE subject of this clinical paper is the frequent association of cystic disease of the cervix with what is termed "cystic endometritis," the chief feature of the latter being the existence of papillomatous growths, or tags, or small polypi, all of a true adenoid constitution, in the interior of the uterus. By cystic disease I do not mean the superficial distended follicles which often co-exist, but real cystic degeneration of the deep structures of the cervix.

Four brief cases will serve as illustrations:—

Case 1.—Mrs. S., aged 44 years, the mother of three children,

the youngest being 7 years old. Four years ago she had a miscarriage at the third month. Last autumn she consulted me on account of severe backache, with the history that the catamenia now occurred at rather longer intervals than usual, the last one being six weeks; that the flow was also more scanty and in a measure replaced by a watery discharge. Note taken: Os rather patulous, tissue of cervix hard and uneven; a rather hard mass the size of a marble is felt about half an inch up the cervical canal. I concluded that this was in all probability a sessile polypus, and as I was going for my holiday I gave her an ergot mixture, with instructions to come again a month later. This she did, informing me that now severe bleeding, lasting several days, had set in, and that she was losing flesh and strength rapidly. Examination revealed but little change beyond some enlargement of the swelling, and that the os now admitted the finger. On proceeding to operate some days later, I found the cervix studded with cheesy follicles, and the presumed polypus proved to be one mass of conglomerated cysts charged with glairy contents. I cut off the projecting portion, leaving a base honey-combed with the divided cysts.

The whole of the anterior cervical wall was invaded. Before proceeding further I curetted the interior of the uterus and removed numerous so-called papillomatous, small fleshy tops. To this I applied iodised phenol and then thoroughly attacked the cystic wall of the cervix with the actual cautery.

The patient had no bad after-symptoms; temperature and pulse remaining perfectly normal. About the tenth day the cervical surface had become clean of sloughs, and I applied strong iodine to that and the interior. From that time the patient has had no treatment whatever and seems perfectly well; menstruation has been regular and normal. I may state in passing that the patient's mother died of carcinoma uteri.

Case 2.—Mrs. M., æt. 43 years; has had two children, the youngest being 13 years old. The patient is stout and well built, but for the last six years has been almost a complete invalid

through menorrhagia, backache, and inability to walk. "She does not think she has walked a distance of two miles at once for the past six years." Frequently she is not more than one week in a month clear from bleeding to some extent, and this is accompanied with little shreds and clots, *i.e.*, the uterus is large and flabby, measuring four and a-half inches; there is slight retroversion. The cervix is large and decidedly of the mushroom type, that is the labia are everted and bulky, and expanded from the body of the cervix with marked induration of the right half of the anterior lip. Sounds pass easily to No. 13 and reveal rough places in the interior. Per speculum: The everted labia are studded with prominent follicles, from which on puncture a clear glairy fluid exudes. By Recamilis curette numerous small fleshy looking growths from one-sixth to one-eighth of an inch long are removed with smaller masses of a reddish gray colour and of a much looser texture. Patient objects to any operative treatment.

Case 3.—Notice the age. Mrs. B., æt. 52 years, has had seven children, the last twelve years ago. She states she had a flooding with the fifth and two successive labours. There has been no sign of the menopause, beyond the fact that the periods for the past two or three years have been in alternate months, but the loss has been free, persisting for a whole week. Leucorrhœa slight, backache severe. Uterus three and a quarter inches long, cervix very large, both labia studded literally with scores of follicles, prominent and ejecting cheesy contents on being punctured. This was a very definite case of bilateral laceration, and the question of age raised some doubt as to the expediency of doing a plastic operation (a doubt I may say now completely dissipated, as I have done a fair number at and beyond the fiftieth year with the most gratifying results). Iodine, glycerine, in fact all medicinal aids utterly failed to give any relief to symptoms, or to conquer the follicles, and I therefore adopted Emmett's plan. The surfaces of the labia cervices were quite two square inches each, and on removing the mucous membrane I found a perfect nest-work of cysts, one large enough to hold half-a-

drachm of fluid. (In one case I did in a lady, aged 53 years, I found a cyst that admitted the tip of my little finger.) Of course this necessitated a deeper excision of the tissues than usual, and even then I was not rid of the honey-combed condition; I therefore scraped the surfaces thoroughly before bringing them together. The result was pleasing, and a cervix resulted which could be satisfactorily seen in its entirety by a medium sized speculum, whereas, previously, it was impossible to see more than one lip, and that only in part. So far, good. But to my intense annoyance she came back in two months' time to say that while the leucorrhœa was absolutely cured, and the pain greatly relieved, the menorrhagia persisted. The cervix was all right, a few follicles could be seen about half-an-inch away from the os, showing that I had not pared the surfaces to a sufficient extent. On passing the sound I felt the prominent intra-uterine growth, and learnt the extreme importance of what I find Martini, of Berlin, carefully observes, viz., before repairing the cervix, in any way thought best, be sure the interior of the uterus is cleared of all fungosities so termed.

Case 4.—Mrs. W., æt. 33, three children, youngest three years old, widow two years, sought relief from the pain in the back and hips at the middle of the month, the spasm at the time being worse than labour and relieved immediately by the escape of a copious offensive discharge.

An eminent London doctor said she had an abscess of the ovary after her confinement, with this as a consequence.

Note.—Ut. $3\frac{1}{8}$ in. long, anteverted very much, quite mobile, right cul de sac absolutely free, in the left a very slight thickening. Cervix lacerated. By Emmett's operation and a stem great relief was obtained, the uterus being reduced to $2\frac{7}{8}$ in., and the pain removed. Still the discharges continued. Again I found the mucous membrane at the fundus very sensitive and rough, the patient affirming "that hurts my back," as the sound touched that portion of the uterus. Curetting and mild caustics have completed the cure to this extent, "she has not felt so easy for years, and the discharge has disappeared."

These cases exemplify the two main clinical features, menorrhagia and pain, and one other not so constant, but sometimes well marked, viz., intercatamenial discharge of a mucous or muco-purulent character. The menorrhagia has one or two characteristics: (*a*) It is frequently very excessive. Sir James Simpson records one case which proved fatal in a young woman, where the post mortem revealed only a small polypus the size of a pea in the uterine cavity, and I have seen several where the hæmorrhage poured away as from a ruptured vein. (*b*) It comes in gushes, and the sensations are evidently such that the patient can often distinguish it; as one expressed to me, "I am not unwell, but I bleed inside; I feel something filling and then it bursts." In other cases there is a long-continued slight oozing and then a "rush," as another patient described it. (*c*) And very important, it is protracted late in life, and in this respect it forms one of the most essential features in suggesting and then being discriminated from cancer. Dr. Barnes mentions one clinical fact which I have often corroborated. In cases where late in life menorrhagia supervenes after months of menopause, the assumption is that the cause is cancer; where metrorrhagia persists without the expected menopause most probably the cause is cystic endometritis. This is a valuable rule to remember, though not absolute.

The Pain. I am sure one feature of cystic endometritis with cystic degeneration of the cervix is severe backache. The task of associating certain pains with varied uterine and ovarian disorders I have given up as almost hopeless, but here anyhow is one fairly pathognomonic.

"My back is so very bad;" "The back aches so;" "My spine is so sore;" "Can't you relieve this tearing pain in my back;" "The pain in my back and hips is worse than labour;" are various descriptions given by the sufferers. Of other general discomforts, as bearing down, and weariness and exhaustion, I need not say anything. The uterus is almost always enlarged, sometimes very much so, even to 3½ or 4 inches; some degree of alteration of shape also is very

common, anteflexion being more frequent than retroflexion or version in my experience.

Pathology. "Cystic endometritis" (an unfortunate name), is perhaps the most common term applied to these intra-uterine degenerative changes. The objects found are described as "granulations" fungosities, these masses containing many blood vessels, especially veins, and bleed at the base where they undergo fatty degeneration; or they may constitute mucous polypi varying in size within a very wide range. In other cases they are small round masses lying beneath the mucous membrane, resembling "elastic grains" in touch, and varying from a pin's head to a filbert in dimension.

The most modern teaching considers all these varieties as but different stages of an adenomative change of the mucous membrane; the solid bodies being composed of mucous gland tissue covered with epithelium; the cysts arising from closure of the ducts, not simply by obstruction with subsequent accumulation of contents in the gland, but (Coats) the cyst arises in the duct of the gland, the latter persisting and pouring its secretion into the cyst. If the obstruction be partial or temporary the cyst may subside and refill again and again. Another element in the process of enlargement is the power of mucin to swell up by the absorption of water.

Dr. Norman Dalton has furnished me this microscopical account of a piece of cervix removed in Emmett's operation.

Half-inch objective. Large number of small cysts scattered through the muscular bundles and connective tissue of the cervix.

Quarter-inch. The cysts are filled with a hyaline substance in which minute granules are scattered. The majority of the cysts show evidence of having been lined by cells as the nuclei are collected at the periphery. It is difficult to make out the outline of the cells to which these nuclei belong as the protoplasm has degenerated, but in a few instances (diag. B.) they are seen to be distinctly columnar. It would, therefore, appear that the cysts had the same lining as the glands of the cervix, and as they lie most abundantly at the free edge of

the cervix, we may suppose they have developed as acini from those glands. These acini have penetrated into the substance of the cervix and lost their outlet. Mucoid degeneration of the cells has thus occurred, with the result that the acini have dilated into cysts. The substance within the cysts gives the same appearance under the microscope as mucin, and in a few cases large round hyaline cells can be seen shewing the transformation.

The other point of interest is the open-work condition of the cervical tissues round the cysts, which would appear to be due to œdema.

In a most elaborate article on Erosions, in the Annals of Gynæcology, October, 1887, Dr. Cushing of New York states that these follicles and cysts may arise not from enlargement of pre-existing ducts, but be really new formed glands without ducts.

Passing on to the more clinical consideration of this disease and its causes, I think we must lay down as the fundamental proposition that the essential cause is inflammation or catarrh. It may be simply caught by a chill, and passing on to a chronic stage; it may be the concomitant of an attack of metro-peritonitis, and in itself insignificant at the time in presence of the more dire disease. Its relation to scrofula, and to the infectious disorders as measles and others would, I believe, be worthy of careful observation. Its initiation during the act of parturition in a lacerated cervix, or in some more recondite nutritive disorder associated with the arrest of the normal involution of the uterus, is also a certainty.

But the point of this paper is to emphasize the importance of a careful examination of the fundus before adopting any method of dealing with cystic disease of the cervix. I have found no reference to this in books, and yet, as in the cases given, most successful dealing with the cervix may fail in curing the patient, by leaving these adenoid vegetations in the uterus. Some time ago I held the opinion that eversion and ectopian never occurred without the existence of a laceration, but it must be admitted that some degree of ectopian may be

found in virgins due to that form of glandular hypertrophy, which consists chiefly of proliferation of the cells of the rete malpighi, and that inside the uterus simultaneously may be found a tag or small mucous polyp. The two circumstances, combined with a patulous os, stimulate abortion to a dangerous degree. But I question very much if a real cystic condition of the cervix is found in non-parous women, and I hold as strongly as I wrote three years ago, that Emmett's discovery of the essential difference between a wound in the cervix and an ulcerated condition is one of the clearest rays of light we have in this class of uterine disease. My own experience is that 90 per cent. of the cases of cystic disease of the cervix are found in conjunction with laceration and ectopian. I know for an absolute certainty that cystic degeneration takes place in cervices that have been cauterised on the surface, or punctured by the actual cautery. No doubt the hypertrophy can thus be subdued, but the tear is not repaired. The specimen on which Dr. Dalton reports was taken from a patient in whom, three years previously, I had ignipunctured a lacerated cervix with temporary good results. Now the eversion and so-called hypertrophy were worse than ever, being also associated with cystic degeneration. Whether therefore this cystic degeneration be disseminated in both lips, or, as is fairly frequent, be localised on one constituting a strawberry-like polypus, I advise that the surfaces be drawn together, in order that healing by first intention be secured. Under some circumstances, amputation of the whole may be thought preferable, or a cystic polypus may be removed by an ecraseur, but these I consider details of method. The central truth is, these adenoid changes are inflammatory in nature. The next is, What is the active cause or continued irritant? And in spite of all that has been written in Germany, I maintain that the fact that the cervix is torn constitutes this irritant in many cases. Scientific surgery does not burn and torture a wound, which, by the arrangement of its surrounding structures, has a tendency to separation of the flaps, but kindly puts a stitch in. But few words are needed in reference to the treatment of

the adenoid endometric growths. The lubrics concerning careful observation and correction of any flexion, or of any existing disease of the broad ligaments and appendages can only be mentioned. The curette need not be larger than a No. 8 sound, and its edge ought to be dull. Every practical man knows how when tents, either sponge or tangle are used, they bruise and bring away fragments of tissue, and that oftentimes mere tenting has cured menorrhagia. I am in the habit of using very extensively a strip of lint about half-an-inch wide and of sufficient length, soaked in equal parts of liniment iodi and glycerine immediately after curetting. Pure carbolic acid, or iodized phenol are as a rule efficient and safe. But in very chronic cases (and we are all familiar with the tendency to recurrence of these endometric products) nitric acid, or a dull red-hot wire are requisite.

The consideration of the relevant and important relation of these adenoid changes in the cervix and endometrium to cancer must be left to another occasion.

Dr. HEYWOOD SMITH said there was no doubt that this condition existed almost exclusively in multiparous women. He thought Dr. R. T. Smith had taken the new name of cystic disease of the cervix for the condition which was generally known as follicular cervicitis. The intra-uterine growths and follicular disease of the cervix did not necessarily go together, but they were often co-existent. He said that the latter depended on parturition, which produced a tendency to proliferation of the cervical connective tissue. Hypertrophies of the inter-utricular tissue of the lining of the uterus, or even occasionally small fragments of the secretion at the placental site left behind formed the starting point of the intra-uterine growths. Fissure of the cervix thus produced first of all cervicitis, but they often got the same condition of the cervix without fissure, and often fissure without follicular cervicitis. He thought one saw cases where there had been no fissure, more than would happen in ordinary labour cases, and yet the cervix underwent enormous hypertrophy. He could quite endorse what had been said as to the very great

value of Emmett's operation. He was sure that in properly selected cases it was the only successful method of treating the malady. With regard to the pain he quite agreed as to the pathognomic indication of sacral pain as referring to the cervix, not necessarily to cervicitis, but to other conditions in which the cervix was involved.

Dr. EDIS said he had met with a large number of these cases, and after having tried all the various expedients, from nitric acid to iodised phenol, he had found that where there was hypertrophy with ulceration the surest plan was either to amputate the cervix, obtaining adhesion as far as possible by first intention, or else to perform a modification of Emmett's operation, leaving a modified stump which answered all the purposes of a cervix. Sometimes they were very intractable cases, and soon returned as bad as ever unless a radical operation were performed.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, MAY 23, 1888.

PRESENT :—28 Fellows, 8 Visitors.

The following were elected Fellows of the Society :—Dr. H. W. Powell, Dr. E. H. Crisp.

Books were presented to the Society by Professor W. Japp Sinclair, Manchester.

A Case of Complete Chronic Inversion of the Uterus. By FANCOURT BARNES, M.D., M.R.C.P., Physician to the Chelsea Hospital for Women.

MRS. D., aged 41, married, was admitted into the Chelsea Hospital for Women under my care on May 10th, 1887. She had chronic complete inversion of the uterus. She was the mother of ten children. Her last labour occurred four months before. Her labour had been a natural one, the pains being less than usual. There was, however, considerable hæmorrhage, and it was discovered that during defæcation, three days after her labour, the uterus projected to the size of a child's head. She was able to go about her house work, but suffered much pain above and to the left of the pubes on going up and down stairs. Since her confinement she has had hæmorrhage almost continuously. Dyspareunia and hæmorrhage followed an attempted coitus six weeks before her admission. On examination the uterus was found to be completely inverted. The sound could not be passed beyond the tumour into the cervix. Bimanual examination through the rectum and abdominal wall displayed the absence of the uterus from its normal position. Dr. Aveling's sigmoid repositor was applied to the fundus of the uterus, and pressure secured upon it by elastic bands and tapes fastened to a belt

round the waist. This was done on May 12th. In eight hours after the application of the repositor the uterus was found to be returned, so presumably it occupied even less time than that. On May 14th, at ten o'clock in the morning, I found the cup of the repositor within the cavity of the uterus and the stem firmly nipped by the cervix. By tilting down the cup and at the same time pushing up with the finger the portion of cervix opposite to it, it was released from the uterus. On May 19th the uterus felt normal to the touch and the sound passed in four inches. The patient had little or no pain from the beginning to the end of her treatment. She left the hospital quite well on the 28th May, seventeen days after her admission. On June 7th the patient came to show herself to me. I then found that the uterus was in normal position and that the sound passed upwards and forwards to a distance of two and a-half inches.

In a lecture given by Dr. Aveling in 1886, at the Chelsea Hospital for Women, he has collected eleven cases treated by different operators with his sigmoid repositor. The following table gives the names of the several operators, together with the time required for the reduction of the uterus.

Case I.	Operator	Aveling	Hours	54½
„ II.	„	Williams	„	33
„ III.	„	Gervis	„	51¾
„ IV.	„	Aveling	„	52½
„ V.	„	Rogers	„	40
„ VI.	„	Edis	„	48
„ VII.	„	Bantock	„	31
„ VIII.	„	W. Duncan	„	48
„ IX.	„	Galabin	„	53
„ X.	„	Aveling	„	9
„ XI.	„	Davies	„	14 (?)

He says "this table demonstrates that, on an average, each case took about 40 hours for its cure, the longest time occupied being 54½ hours, and the shortest 9 hours." In the case which I have just described, the replacement of the uterus was accomplished in 8 hours.

Now, cases of complete chronic inversion of the uterus are of sufficient rarity to justify the record of each one that occurs, whatever the treatment may be. In the case of the treatment by Barnes' or Aveling's repositor and elastic bands the recorded cases are very few. It is therefore necessary to accumulate them in order to show conclusively the actual value of this method. In any case a fair and patient trial should be given to the method by elastic pressure before cutting the Gordian knot by operation.

Dr. EDIS pointed out that, interesting as was the paper, the circumstances were very favourable for reduction, seeing that only four months had elapsed. With the same repositor he had reduced one of eight years' standing. He said the compensatory curve was of great advantage. He thought that in his case re-inversion would have occurred much more rapidly had the nurse in attendance not loosened one of the bands, and rendered nugatory the pressure. He recalled one which had been published in the *British Medical Journal* in which he had reduced one of five years' standing within thirty-six hours. Although these cases were rare, they were not as rare as one would imagine from the recorded cases. There were a number of cases of partial inversion where the condition was not recognised, simply because the prolapse did not protrude through the os uteri. In such cases the fact that the sound would not enter more than one and a half inches ought to put the medical man on his guard. Generally speaking he thought it was possible to reduce most cases of inversion within twenty-four hours, but it was generally considered that gradual pressure was the best. He referred to the case reported by a medical man from Birmingham, who, having tried the effect of the spring used against the chest, opened the abdomen and even made a hole into the uterus, without effecting a reduction. He mentioned that one difficulty with the repositor was that the cup followed the fundus back into the uterus, and was not easy to withdraw without reproducing the malposition. In the first case he was unable to withdraw the repositor without some little trouble.

Dr. ROUTH suggested using a sea tangle or sponge tent, and when the os was thoroughly dilated the apparatus could easily be removed, especially if chloroform was used. He said there was no reason why the metal part of the instrument should not be very much thicker, and its size might be made capable of being diminished by a screw on one side.

Dr. BANTOCK congratulated Dr. Fancourt Barnes on the short time it had taken him to effect the reduction of the uterus in the case he had brought before the Society. With regard to his own case, to which Dr. F. Barnes had referred by quoting the time occupied in the reduction, he thought several hours might fairly be taken off the time stated, for it was quite evident that the uterus had gone back several hours before the instrument was withdrawn, and the time was clearly marked by the occurrence of a sharp, sudden pain. A great deal had been said about the difficulty of removing the instrument after it had gone up into the uterine cavity along with the retreating fundus. There was no difficulty about it, for the instrument only required tilting to one side to effect its speedy extraction even after the external os had closed around the cup, and he did not see the necessity for such an arrangement as suggested by Dr. Fenwick. In his opinion it would only tend to make the accurate adaptation of the instrument more difficult. There was one practical point to which he would call attention, and that was the strength of the elastic bands supplied with the instrument. In his own case the bands first supplied were so weak as to be quite useless, and the result was the loss of valuable time. After stouter bands were put on the reduction was effected in a few hours. With regard to the size of the cup he was under the impression that two or three different sizes were supplied with the instrument, and he, for one, was quite satisfied with its present form.

At a later period Dr. Bantock pointed out that there was much exaggeration as to the extent to which the instrument passed into the uterine cavity; one might imagine from some of the observations and suggestions made that as the fundus retreated the instrument followed it until five or six inches of

the instrument had disappeared. Now in Dr. Barnes' case we were told that the uterus measured only four inches after reduction, but it was obvious that the cup could not have passed more than an inch or two at most, and his belief was that it did not go much, if any, beyond the internal os.

Dr. HEYWOOD SMITH said that such a discussion could not fail to be of very great use. He criticised one expression, viz., that the use of physical force in attempting this reduction would be attended with danger. He said that surely the instrument described was a form of physical force. Moreover, he always preferred in all cases, if possible, to use the hand first and then use instruments later on, if necessary. At a case in the hospital for women, of three months' standing, he succeeded in reducing the inversion in fifty minutes. He said that if the inversion had existed for a long time the cervix often gripped the body of the uterus. With respect to the reposition of chronic inversion by the hand, he said there was no doubt that the construction of the cervical band was the chief difficulty, and the first thing to be done was to get the hand well into the vagina and keep up a steady squeezing. Presently the uterus, instead of being a hard ball, became more or less flaccid. Inasmuch as the place of insertion of the oviduct was a thinner portion than elsewhere, it had occurred to him to commence reposition by pushing with the finger or thumb at the insertion of one or other of the oviducts. As he pressed up the side of the uterus it gradually recovered its proper shape. From his experience, on this occasion, he was quite sure that the best way was to commence by the hand, and preferably at the insertion of the oviduct.

Dr. EDIS said that he omitted to mention one point, and that was as to the necessity of having the instrument like the one before him. He had it made in a cone so that it could not well be gripped. It must be borne in mind that they were working through the passage of the vagina, and consequently that it was not easy to tilt the instrument. In the case he alluded to the cup had penetrated three inches or so into the uterus and adhered like the suckers boys use.

Dr. FANCOURT BARNES said it was the fact of its being the only case in which he had reduced a chronic inversion in eight hours that had induced him to bring it forward. It was not by any means the only case he had seen. He said that the method of reducing inversion of the uterus by elastic pressure was due to Dr. Tyler Smith. As to the time, Dr. Edis' case was of eight years' and his own of four months' standing, but as in his own case the process of involution was complete at the end of two months, he did not see that it made any difference. Dr. Fenwick's suggestion as to applying an india-rubber bladder around the stump was a good one if Dr. Aveling's instrument was to be employed, but in his father's instrument the stump was broader and might with advantage be made even more so. In this way it would serve as a guide to the cup and enable it to be withdrawn. He could not understand how anyone who had any experience of these cases could find it necessary to dilate the *os uteri* with tents in order to get the cup out. He had withdrawn it without difficulty. He had only found it necessary to hold one side of the *os* fixed so as to tilt the cup down. The perinæal curve in Aveling's repositor was not really necessary and might be dispensed with. He had not attempted to reduce the inversion with the hand because he was convinced that the instrumental method was preferable.

The Treatment of Hæmorrhage in Uterine Fibro-myomata by Hydrastis Canadensis. By HENRY T. RUTHERFOORD, B.A., M.B., Camb., M.R.C.P., Lond.

As the treatment of uterine fibro-myomata is arousing considerable interest and discussion, owing to Apostoli's method of treatment by electrolysis, the following five cases may be of interest. They were all out-patients under me at the Chelsea Hospital for Women, and were treated in almost exactly the same way. Their cases have not been selected, but taken as they were found amongst my out-patient notes.

No restriction was placed upon them as to exercise or general mode of life, but upon their diet I made several restrictions, as suggested by Mr. Knowsley Thornton in a paper published in the *Lancet* some time back. From that paper I learned much that has since proved extremely useful to me in the treatment of these cases.

The short notes of the following cases prove, I believe, the value of hydrastis as a hæmostatic in the treatment of hæmorrhage due to uterine fibro-myomata.

Case. 1.—R. B., 38 years old; married, but has no children. Complains that for the last five months she has noticed a swelling in the stomach, which is slowly but gradually increasing. Her periods are irregular as to date and generally last one week or longer, the quantity being profuse and greater than formerly. She has dragging pains in the abdomen, and micturition is frequent. On examination the cervix was very high, almost out of reach of the examining finger. Bimanually an irregular, hard, nodulated tumour was found occupying the left iliac fossa, reaching almost to the umbilicus and passing to the right of the median line. The fundus uteri could not be distinguished. The tumour and cervix moved as one mass, and there was no doubt we had to deal with a large fibroid tumour. On April 2nd, 1886, she was ordered a mixture of Pot: Brom: gr. x. and Ext: Ergot: Lig: ♏ 30, three times a day.

On April 16th this mixture was altered to one with Tinct: Hydrastis ♏ xv., three times a day, when great improvement set in; and after continuing this treatment for some time the patient discontinued coming to the hospital as she considered herself well.

Case 2.—Mrs. M., 46 years of age, married. Has had no children, but two miscarriages. She came to me complaining of a swelling in the left side of the abdomen, which had gradually been increasing for the last ten years. Her periods have always been profuse, lasting sometimes for three weeks. On examination the anterior lip of the cervix was hard and greatly enlarged. Occupying the left side of the abdomen

was a hard, irregular, fibroid tumour, reaching as high as the umbilicus and extending outwards to the flank. Uterine sound passed five inches upwards and to the left. On April 2nd, 1886, the patient was ordered Tinct: Hydrastis ℥ xx., three times a day, with an aloes and iron pill to be taken every night.

She continued to improve on the Hydrastis, and on June 18th, 1886, when I last saw her, my notes of the case say an improvement has taken place in the condition of the patient, "the catamenia came on regularly; duration five days; quantity moderate." At this visit Lig: Strychniæ ℥ v., and Calumba were added to the Hydrastis. There were none of the usual symptoms of the menopause in this case unless we include the menorrhagia, but this has continued profuse for many years, so that I think we may safely omit the menopause as a cause of the flooding. It is well known that the menopause is frequently postponed, sometimes for years, in cases of uterine fibroids, and such, I believe, is the case here.

Case 3.—S. B., 47 years of age; has had three children and several miscarriages. She saw me for the first time on April 15th, 1887, and then complained of pain and swelling in the left side of the abdomen. The swelling she first noticed some months previously. Her periods have always been regular but very profuse, lasting sometimes 14 days. Complains also of flooding during the last three months. During March she had three severe attacks of hæmorrhage. On examination it was found there was still present a copious sanguineous discharge. The whole uterus was enlarged. Uterine sound passed four inches in a forward direction. Two inches above the fundus uteri and on the left was a hard rounded tumour—fibroid—which bimanually could be felt to pass into the pelvis. Uterus and tumour move as one.

On April 15th, 1887, she was ordered a mixture containing Tinct: Hydrastis ℥ xx. in one ounce of Inf: Quassi:, to be taken three times a day. This mixture was continued regularly for a fortnight, when the patient's condition was greatly improved, the hæmorrhage now amounting to a slight

sanguineous discharge. Early in June the flooding had ceased, and on June 24th my notes say, "Flooding entirely ceased." On January 20th, 1888, patient still continued free from floodings; periods are regular; not as profuse as formerly; duration also shorter.

It may be said that the floodings in this case were due to the climacteric period, but I questioned her very closely to ascertain if any of the usual symptoms of the menopause were present, and could find none. Even at this date, January 20th, 1888, no symptoms have occurred, the floodings have ceased and the catamenial periods are quite regular.

Case 4.—S. S., 51 years of age; married, has four children. Consulted me on April 15th, 1887, for "bleeding from the womb, which has continued off and on since Christmas, 1886." Has always been regular every month, the flow being profuse and lasting generally a week. Until Christmas, 1886, had never suffered from metrorrhagia. On examination a hard irregular fibroid tumour was found occupying the anterior and left lateral wall of the uterus. The sound passed for a distance of 3½ inches into the uterine cavity. The new growth rose 1 inch above the fundus uteri on the left side. The patient was ordered Pot: Brom: gr. x., and Ext: Ergot: Lig: ♏ xxx., in a mixture three times a day. On April 29th, a fortnight after her first visit, the "hæmorrhage was still excessive." On May 20th, as the flooding still continued, a mixture of Pot: Brom: gr. x. and Tinct: Hydrastis ♏ xx. was ordered, with the result that the hæmorrhage ceased.

On July 1st, my notes say, "slight pinkish discharge at times only."

The mixture was continued with the best results, for on October 14th, 1887, I find that "the last catamenial period came on October 9th; lasted five days; was not profuse." Is regular every month.

On November 11th, when I saw her for the last time, she stated that she was regular every month, but never flooded now. Says she feels very well.

Owing to the age of this patient and the flooding coming

on rather suddenly, I was careful to enquire into any symptoms of malignant disease, but am perfectly satisfied we were dealing with a simple fibroid tumour.

Case 5.—E. C., aged 36 years, married; has had seven children; complains of flooding, which first begun with each menstrual period, but now occurs between the catamenia. For some considerable time she has noticed a lump in the right side of the abdomen which causes a continual dragging pain in the pelvis. For the past six weeks she has been losing blood almost continually, sometimes in considerable quantities.

On examination the uterus was enlarged and rose above the pubes. The whole organ was hard and bulky. On the right and in front of the uterus was a fibroid tumour the size of a cocoa-nut, occupying chiefly the right iliac fossa.

On September 2nd, 1887, patient was ordered a mixture containing 15 grs. Pot: Brom: and 30 min: Ext: Ergot: Lig: with a pill of Cascara Sagrada to regulate the bowels. The metrorrhagia was lessened but not stopped. On September 30th, as the ergot did not seem to lessen the hæmorrhage satisfactorily, the patient was ordered a mixture containing bismuth and Tinct: Hydrastis ℿ xxv., to be taken three times a day. The floodings after this ceased, and on December 30th my notes of the case say "Floodings have ceased for a considerable period. Patient considers herself well."

It is interesting in this case to note how Hydrastis Canadensis effectually stopped the floodings, when ergot and bromide of potassium failed. I have notes of another case similar to this, in which the floodings were severe and had greatly weakened the patient. Ergot and bromide had been tried without success, and oöphorectomy been advised by a provincial medical man. Before submitting to the operation she consulted me as to advisability of the operation. Hydrastis was tried, and I am happy to say with the best results.

Remarks.—Hydrastis Canadensis may be used in different forms; as the tincture which I have invariably used, in doses of ℿ xv. to ʒj; as the fluid extract, in doses of ℿ xv. to ʒss.; or as the alkaloid hydrastine or hydrastina, which must not be

mistaken for the eclectic preparation hydrastin, which is composed chiefly of herberine. The two first mentioned preparations are those most generally employed, some authorities preferring the fluid extract, while others assert that the tincture is the most certain in its action. Of the fluid extract I have no personal experience, as I first prescribed the tincture and have had no occasion to be dissatisfied with its action. If hydrastin be preferred it may be ordered in pill form, each pill containing two or three grains of the drug.

As regards its action on the human body, if we may judge from experiments made on rabbits, it would seem to be a vaso-constrictor in ordinary medicinal doses, while in large or toxic doses it is a vaso-dilator. Uterine hæmorrhages are checked by the persistent anæmia produced in the uterus due to contraction, and according to Wilcox (*New York Medical Journal*) this contraction is "unaccompanied by the distressing cramps of ergot or the flooding from the alternate contractions and relaxations." The patients whose cases are reported above were all of them entirely free from any pain, such as is sometimes experienced when ergot is given in large quantities.

Woltering (*All. Med. Cent. Zeit.*, No. 46, 1886) confirms the favourable results obtained with this drug by Fellner and others, and mentions cases in which the uterus measured, in one case eight centimetres, in another nine centimetres, and hæmorrhage was an alarming symptom. The hæmorrhages soon ceased and the condition of the patient was greatly improved. Pallin has used this drug not only in uterine fibro-myomata, but in other conditions in which hæmorrhages have been the chief symptom, as endometritis and menorrhagia in young girls. He considers it a very useful and efficacious remedy, but his results in five cases of fibroid tumours are not altogether conclusive, as other drugs were ordered with the fluid extract. Schatz (*Berl. Klin. Wochen.*) denies its action on the muscular fibres of the uterus, but gives as one of the indications for the use of the drug, hæmorrhages due to sub-mucous fibro-myomata. That it acts favourably in many cases

of uterine hæmorrhage is undoubted, and I believe in many cases of uterine fibroids its use will be found more advantageous than the usual treatment by ergot, especially in those cases in which ergot causes obstinate constipation or derangement of the digestive tract. The tincture of hydrastis can be taken continuously for a considerable period without any ill effects; indeed, it will be found to improve digestion and act as a stomachic tonic. I do not wish to assert that its action as a uterine contractor is as powerful as that of ergot, but I feel sure that it may be advantageously employed in some few cases which have not yielded to ergot, and in many cases in which ergot is objectionable for the reasons already assigned.

Electrolysis undoubtedly causes a reduction in size of fibroids, and in some cases an actual disappearance; ergot pushed in considerable doses will frequently bring about a sensible diminution in the size of fibroids, but there are cases in which ergot seems to have no controlling action whatever, either upon the hæmorrhage or upon the increase in the size of the tumour. In the above cases, while hæmorrhage was controlled by the use of hydrastis, its effect upon the size of the tumours were nil, at least so far as I could judge, and in each case I was careful to note this point as accurately as possible. They certainly did not increase in size, but I am bound to admit they did not decrease. It has been claimed for hydrastis, however, that in many cases if the drug is pushed sufficiently, a diminution in size will take place; and cases are recorded in which the fibroid, as judged by the length of the uterine cavity, diminished to the extent of two or three centimetres. So far as I can find this lessening in size of the uterine tumour seems rather the exception than the rule, and judging from cases under my care I would say that while hæmorrhage is checked by the use of hydrastis, no decrease in the size of the tumour takes place.

Many patients with uterine fibroids come to us complaining of the excessive hæmorrhage which is slowly but surely draining their system; the size of the tumour seems to cause them no inconvenience, as in Case 2, where the tumour had

been noticed for ten years, and were it not for the menorrhagia and metrorrhagia we might, perhaps, never see them; many patients, again, will not submit to the treatment by electrolysis, as the process occupies too much of their time, or the ultimate result of this method of treatment does not appear to them to compensate in a sufficient way the time they will have to devote to it; in some few, again, ergot seems to have no effect in checking the hæmorrhage, as was the case in Mrs. E. C., Case 5; or it may cause great disturbance of the digestive tract. Where these conditions exist I believe hydrastis, either as the tincture or fluid extract—the two most reliable preparations—will be found of value, and deserves a fuller and more extended trial than has hitherto been given it in this country.

In conclusion, I would add that the drug has been extensively employed in uterine hæmorrhages due to causes other than fibro-myomata. In Russia, Germany, France and America the drug has been largely and successfully used in fungous endometritis with copious hæmorrhage; in climacteric hæmorrhage; in hæmorrhage in young girls; in metritis with menorrhagia, and in other hæmorrhagic conditions, with the result that it can be safely recommended; but as my experience in the use of it in such cases is limited, I have ventured to omit them, and merely bring before your notice the five cases recorded above and their treatment by Hydrastis Canadensis.

Dr. PARSONS mentioned a case of fibroid. When the patient came to the out-patient department she was almost sinking from hæmorrhage, and was at once admitted. It was doubtful whether she would have been able to stand the electrical current, and he therefore gave her *hydrastis canadensis*, with the most extraordinary effect. Previously to its administration she was losing profusely. He gave her 3 gr. every four hours. At the end of two days the hæmorrhage began to decrease, and in five or six days she was comparatively free. On diminishing the dose the hæmorrhage returned. The question arose as to whether the result was merely temporary or whether the drug had some effect on the growth of the tumour.

Comparing the action of electricity and hydrastis he said the effect of electricity was permanent, but as to hydrastis they had to wait for further information. He remarked that, three of Dr. Rutherfoord's cases were near their climacteric.

Dr. EDIS said that the drug was one which would commend itself to the ordinary practitioner. It was largely used in America. He had been very satisfied with it in a number of cases. He observed that in the case in question the *hydrastis* undoubtedly had an effect in checking the hæmorrhage. Although electrolysis was vaunted as THE remedy at present, it would be ultimately found to be only one of the remedies at their command. Patients came to have the hæmorrhage checked, and were satisfied if that was done. They could always have recourse to electrolysis if that failed.

Dr. RUTHERFOORD, in reply, said that the three cases of patients near their climacteric did not affect his paper, because he did not bring forward *hydrastis* as a cure for fibroids but merely as a remedy for hæmorrhage. He did not think the drug acted on the tumour or on the muscular structure at all. It seemed to act through the nervous system, causing a contraction of the blood vessels. With regard to electrolysis, he was prepared to admit that it was more powerful, but some patients absolutely refused to submit to it.

The Society then adjourned.

REVIEWS.

A Practical Text-book of the Diseases of Women. By ARTHUR H. N. LEWERS, M.D.Lond., M.R.C.P.Lond., Assistant Obstetric Physician to the London Hospital; Examiner in Midwifery and Diseases of Women to the Society of Apothecaries of London, &c.; pp. 400. H. K. Lewis, London.

This text-book is a handy compilation intended especially for the student, into whose hands it is sure to find its way. Though possessing no great pretensions, the work has the advantage of being thoroughly practical, an advantage not always found in larger text-books. The treatment of early malignant disease of the cervix is adequately dealt with, the method of operating fully described, and the history and treatment of several cases detailed. Upon the treatment of fibroid tumours of the uterus by electricity the author declines to express an opinion. He has treated several according to Apostoli's method, but regards the subject as yet hardly ripe for a positive decision. Numerous illustrations, borrowed chiefly from Simpson, Schroeder, and Doran, add to the value of the volume. To the student we heartily commend this little book as handy in size and sound in material.

Cancer of the Uterus; being the Harveian Lectures for 1886. By JOHN WILLIAMS, M.D., F.R.C.P., Professor of Midwifery in University College; Obstetric Physician to the Hospital; Physician Accoucheur to Her Royal Highness Princess Beatrice, &c.; pp. 119, with plates. H. K. Lewis, London, 1888.

In this volume are comprised the Harveian Lectures delivered at the Royal College of Physicians of London in

1886. The subject is dealt with under three heads: Cancer of the portio vaginalis; cancer of the cervix; and cancer of the body. In dealing with cancer of each of these parts of the uterus the author cites numerous cases, and describes their microscopical appearances. In many points his teaching is at variance with several recognised authorities, but in support of his arguments cases are adduced which seem to prove his contention.

Numerous plates illustrating the various phases of uterine cancer are supplied at the end of the volume.

Anæsthetics: their Uses and Administration. By DUDLEY WILMOT BUXTON, M.D., B.S., Administrator of Anæsthetics at University College Hospital, Hospital for Women, Soho Square, and the Dental Hospital of London. H. K. Lewis, London, 1888.

This forms a very complete and practical exposition of the subject, and should prove a valuable text-book, especially to those who are occasionally called upon to give anæsthetics, but whose experience cannot be large. It opens with an interesting historical sketch of the rise and development of the various anæsthetic agents now in vogue, and then passes on to the question of the choice of anæsthetics in particular cases. The importance of the question is not at all exaggerated, and it would be well if more discretion were used in this matter generally, seeing that there is too great a habit of giving some routine anæsthetic, irrespective of the special characteristics of the case in hand. And while speaking generally of anæsthetics, it would have been interesting, especially after Sir Spencer Wells' strong advocacy of methylene in abdominal surgery, if Dr. Buxton had expressed his own opinion on this "mixture" a little more fully. In one place he recommends it (as well as chloroform and A. C. E. mixture) for this class of case, where "tranquillity of respiration is desired," but he goes on to say:—"For all prolonged and exhausting opera-

tions, ether should be given, unless contra-indicated." Now abdominal sections are very often prolonged, and are certainly exhausting operations, so that, though he agrees that methylene is more agreeable, and its after effects less severe, yet he would apparently prefer ether, perhaps because the dangers of methylene are similar to those of chloroform, though, according to its advocates, in a less degree.

With reference to heart disease, Dr. Buxton says:—"Valvular disease of the heart, except where incompetency at the aortic orifice occurs, does not *per se* greatly affect the prognosis about the safety or danger of giving an anæsthetic." And he proceeds to show that in autopsies made after death from an anæsthetic, there has been structural change in the muscle, rather than valvular disease. Unfortunately, this condition cannot be always diagnosed unless there is much accompanying dilatation—when it may be suspected.

The various anæsthetics are described *seriatim*—their physiological action, methods of administration, dangers, and their treatment. This necessitates, occasionally, some repetition, but that is not altogether undesirable, seeing that it emphasises important points.

The descriptions of Clover's apparatus, both large and small, are not very fortunate, and the wood-cut of the larger one does not assist to make the account of it clearer. There is also no mention in connection with this, of the modification of Clover's apparatus, used by many, where the tube connected with the gas-bottle is attached by its other end to a tap at the neck of the bag of a *small* Clover.

Speaking generally, Dr. Buxton prefers the combination of gas and ether for surgical anæsthesia, and therein most will agree with him. The patient is anæsthetised rapidly, and the condition of narcosis can be maintained for a considerable time with a minimum of risk. The dangers and complications, together with the means of meeting them, are carefully treated, and form an important element in this book, which concludes with a short chapter on the medico-legal aspects of the subject. The question of administration of anæsthetics

during sleep, charges against the administrator, death under an anæsthetic, &c., are clearly and concisely put before the reader, and form a fitting conclusion to a very useful volume.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

PROVINCIAL MEDICAL JOURNAL.

Dysmenorrhœa. By AMAND ROUTH, M.D.

In this interesting article the author discusses the causes and treatment of dysmenorrhœa. The local causes of this disorder are grouped under the following heads: (1) *Spasmodic*, which may, however, be quite independent of any local disease, and is in some cases a neurosis. (2) *Obstructive dysmenorrhœa*, either due to organic stenosis of any part of the genital canal or to displacements, to fibroids or altered uterine contents. (3) *Inflammatory dysmenorrhœa*, caused by inflammation of the uterus, ovaries, tubes, or peri-uterine tissues. (4) *Congestive dysmenorrhœa*, either primary or secondary.

The constitutional causes are shortly mentioned, as anæmia, chlorosis, diabetes, phthisis. The specific fevers, especially typhoid and scarlatina, are prone to produce a cirrhotic condition of the ovaries, while rheumatism affects the fibrous tissue so abundant in the ovary. In the treatment of dysmenorrhœa, stress is laid upon the evil effects produced by opium, if administered too frequently or in the less severe forms. The use of chloral and alcohol may lead to their abuse unless great care be exercised. For spasmodic dysmenorrhœa, and for dysmenorrhœa due to fibroids, nitroglycerine and amyl nitrite are advocated. The bromides in ovarian, cannabis indica in place of opiates in cases of obstructive dysmenorrhœa; guaiacum or salicylate of soda in cases of rheumatic origin and antipyrin in neuralgia cases, are amongst the remedies recommended for constitutional treatment. With regard to local treatment, the author raises a protest against the

division of the cervix or "hysterectomy," an operation which is neither efficacious nor safe. In the treatment of spasmodic dysmenorrhœa, the passage of metal bougies, up to No. 12, will generally be found sufficient and involves very little risk to the patient. In obstructive dysmenorrhœa, similar treatment, carried further and with greater precautions, will generally effect the desired cure. Intra-uterine, stem pessaries are occasionally necessary, but must be used with great caution and with strict antiseptic measures. They should never be employed when any inflammatory processes in the pelvis, either present or recent, are known to exist. In congestive dysmenorrhœa, rest in bed with astringent lotions and hot douches will generally be sufficient; but if the congestion is caused or increased by prolapsus vaginal pessaries must be used. Of these the author prefers the Hodge lever pessary, and avoids the ring pessary as much as possible. The use of electricity in dysmenorrhœa is not discussed, as this method of treatment is still *sub judice.*

EDINBURGH MEDICAL JOURNAL.

Some Cases of Puerperal Septicæmia due to Impure Atmosphere.
By C. E. UNDERHILL, M.B.

The author records four cases of puerperal septicæmia which have come under his notice within recent years. Unfortunately, notes of the cases were not taken, and as the history of each case is given from memory many interesting details are omitted.

Case I.—The patient, a strong and healthy young woman, was delivered of her first child in October, 1886. Living in the same house with the patient was a relative slowly dying of malignant disease of the stomach. The labour proceeded normally until towards the end, when the membranes were retained and had to be removed by passing the hand into the uterus. This was followed by an intra-uterine douche of Condy's fluid. Next day the temperature rose to 102° and

the uterus was washed out by a sublimate solution (1-5,000). No pain was complained of, but tympanites set in with rapid pulse and high temperature. The lochia were fœtid. On the third day after delivery diarrhœa set in, and on the fifth the patient died.

The author is of opinion that in this case the atmosphere of the house was vitiated by the relative who was dying of cancer of the stomach. Discharges from cancer of the uterus are known to be highly dangerous to lying-in women, but it did not occur to the author that cancer of the stomach would be a source of infection.

Case 2.—Mrs. B., who was delivered of a child seven months previously, received into her house a relative suffering from a suppurating cyst of the bladder. Two months after Mrs. B.'s relative entered the house, and while the suppurating cyst was still discharging, Mrs. B. became pregnant. Towards the end of the third month Mrs. B. aborted, and continued to do well until the fourth day, when she complained of pain in the abdomen and fœtid lochia. The uterus was immediately washed out with an antiseptic solution and some membranes removed. No improvement followed; on the contrary, symptoms of purulent peritonitis set in, attended by great pain but low temperature. The patient gradually sank and died eleven days after her abortion.

In this case the evidence is conclusive. No examination was made until septic symptoms showed themselves, and the shreds of membranes removed were not sufficient to cause septicæmia. On the other hand suppurating discharges were daily going on from a case of chronic pyæmia, and the air was undoubtedly full of septic germs.

Case 3.—A young and healthy woman was delivered of her first child in September, 1887. The labour was normal and the patient did well until the sixteenth day after delivery. She was then moved into another room, and two days after began to complain of feeling ill. Seven days after her removal into the new room the temperature had risen to 104° and continued high for some days. Twenty-eight days after delivery

the drains were examined, and a leak discovered in the pipe under the closet behind the sitting room. The patient was immediately removed to another part of the house and was soon convalescent. This case was an undoubted one of drain poisoning, as is shown by the symptoms of septicæmia occurring on the removal of the patient from her lying-in chamber to a sitting-room in close proximity to a drain from which sewer gas was escaping, and her subsequent convalescence on her being placed in purer atmosphere.

Case 4.—A primipara was confined in September, 1885. The labour was tedious and the perineum was torn but sutured at once and healed well. On the third day the temperature rose and the lochia became offensive. There were no distinct rigors. This condition of things lasted some ten or twelve days, when the patient was removed to another part of the house owing to the unpleasant smell from a W.C. which was in close proximity to the lying-in chamber. In this case the septicæmia was also due to sewer gas, which the author suspected, as there was no local inflammatory mischief to be detected.

The International Journal of the Medical Sciences.

The Improved Cæsarian Section, with the Report of a successful Case. By H. J. Garrigues, M.D.

M. J., æt. 22, married; has had one abortion when two months pregnant. Last menstruation occurred on May 20th, 1887. Was admitted to the Maternity Hospital, January 31st, 1888.

The patient is of slender build, and 55½ inches high. Pelvic measurements: between anterior superior spines of ilium 7½ inches; between crests of the ilium 8½ inches; Bandelocque's diameter 6¼ inches; conjugate diameter just over 3 inches. The transverse diameter of the whole pelvis was greatly narrowed. Labour pains began at 8 p.m., on February

23rd, and increased during the night. The external os allowed the introduction of the finger and a uterine tube. After strict antiseptic precautions had been taken by using corrosive sublimate solutions, a medium incision was made in the abdomen from the umbilicus to 2½ inches above the symphysis pubis. On opening the peritoneum this incision was carried upwards for 4½ inches to the left of the umbilicus. All bleeding points were clamped. Four silk sutures were inserted above the umbilicus, and the uterus then lifted out of the abdomen by pressing first the right corner, then the fundus, and finally the left corner. The body easily followed. Towels soaked in hot sublimate solution (1 in 10,000) covered the uterus. A thick india-rubber ring was placed loosely round the cervix, and the four sutures in the abdominal incision were tied. Flat sponges were placed in front and behind the uterus. The uterus was opened in the middle line at the most prominent point, and the rubber tube round the cervix was tightened by an assistant. The uterine incision was enlarged sufficiently to allow the operator's hand to pass into the uterus. The membranes were torn near the lower end of the incision, the left hand passed in, and the occiput of the child's head grasped and lifted out. The body followed easily. The placenta, which was loose, was carefully removed after the membranes had been slowly separated from the uterus. The uterine incision was closed by six deep silk sutures, entering about three-eighths of an inch from the edge on the outer surface, and including all the tissues except the peritoneum and endometrium. The uterine cavity was not cleansed in any way. "Inclosing the deep sutures, the peritoneum was folded in between the edges by means of a tenaculum. Next, eight superficial fine silk sutures were inserted through the peritoneum alone, between and at the ends of the deep sutures, going in and out on the same side before crossing the line of incision, so as to obtain a broad opposition." The elastic ring surrounding the cervix was next slowly loosened, and any bleeding controlled by forceps. This part of the operation lasted twenty minutes. The peri-

toneal toilet was next carefully carried out, but did not occupy much time, as no blood or liquor amnii had escaped into the cavity. The abdominal wound was finally closed by five silk sutures, making, with those inserted at the upper end of the wound earlier in the operation, a total of nine. The operation lasted one hour and eighteen minutes. The measurements of the fœtal head were: occipito-frontal 4¾ inches, sub-occipito brigmatic 3¾ inches; bi-parietal 3¾ inches; occipito-mental 5¼ inches. On March 2nd the abdominal dressing was changed, and the wound was united. On March 8th, the temperature, which had hitherto been normal, rose to 103.6, and the patient complained of sore nipple and a hard lump in the right breast. The abdominal dressing was renewed at this date. The fundus uteri stood four inches above the pubis; there was no tenderness either on abdominal palpation or by vaginal examination. The lochia were coloured pink and perfectly sweet. Five weeks after the operation both mother and son were perfectly well.

Hysterorrhaphy. By H. A. KELLY, M.D.

The essential feature of this operation consists in "the suspension or attachment of the misplaced uterus by means of sutures through the cornua or broad ligaments, in such a manner as to hold the fundus uteri permanently in ante-position." Several successful cases by Sanger of Leipsic and other operators are included in this paper. The indications for this operation are: (1) cases of adherent retroflexed uterus, in which the patient's sufferings arise from the malposition; (2) where ordinary treatment by vagina has failed; (3) to insure the permanent replacement of a malposed uterus, coincidently with any other abdominal operation; (4) in cases of prolapsus which cannot be cured by operation or treatment per vaginam. The mortality is nil per cent., and the operation has been uniformly successful as regards the subsequent results.

THE BIRMINGHAM MEDICAL REVIEW.

On Perineorrhaphy. By VILHELM HEIBERG, M.D.

This article, by Dr. Heiberg, of Copenhagen, deals more especially with the method of operating introduced by Mr. Lawson Tait. After a short *résumé* of the operation, a short description of Tait's method of operating is given. The author mentions fourteen cases of lacerated perinæum that have been operated on by him after Tait's method, and the result in every case has been most satisfactory, a good, broad, firm perinæum being the result, even in cases in which the tear has passed through the sphincter. Dr. Heiberg has tied all bleeding points, though he notes that without ligaturing the vessels "as soon as the deep sutures are put in, the hæmorrhage is arrested." He also used strict antiseptic precautions in every case, carbolic or sublimate solutions being the antiseptic preferred. In conclusion, Dr. Heiberg thinks great praise is due to Tait for thus simplifying the operation, and he believes most surgeons, if they once try this method. will prefer it to any other, whether in complete or incomplete tears.

THE AMERICAN JOURNAL OF OBSTETRICS.

Notes on Uterine Versions and Flexions.
By M. P. JACOBI, M.D.

Out of thirty-five cases of retroflexion, three complained of no symptoms whatever; thirteen experienced no relief from wearing a pessary; fifteen were partially relieved, and four were completely cured. In the opinion of the author the symptoms in most of these cases of flexion are attributable to an endometritis, or metritis, with venous hyperæmia of the uterus. This hyperæmia, it is suggested, is due to the slowing of the arterial current, and the consequent fall in the arterial blood-pressure. This leads to an increase in the venous tension, with an accumulation and stains of blood in the uterine and peri-uterine veins. The hyperæmia will be

greater if there already exists a distension of the veins. Thus, in pregnancy, the hyperæmia is most marked, while in anæmic or chlorotic females it is least marked. Owing to the hyperæmia, the utero-ovarium nerve does not receive a sufficient supply of oxygen, and various sensory disturbances, manifested especially in the pelvic region, but not limited to that part alone, are developed.

A series of eleven curve tracings is added, to show the lessened amplitude of the uterine curve in cases of retro flexion or retroversion. It will be seen, on comparing these cases with a normal curve, that a uterus retroflexed or retroverted has a smaller curve than a uterus occupying a normal position in the pelvis.

A Case of Congenital Absence of the Vagina, with Retention of Menstrual Fluid. By J. S. and A. S. McMURRAY.

J. S., æt. 16, a twin, was first seen by the authors in August, 1887. At six years of age she suffered from a mild attack of scarlatina; otherwise her previous history was good. At the age of 14½ the patient experienced symptoms common to the advent of the menstrual flow, but as there was no "show" the attempt was considered abortive. From this date until August, 1887, these symptoms returned every month, with gradually increasing severity. She had been treated by several medical men, who had not examined her, but said a little medicine would soon cure her.

Examination under ether revealed the following condition of things:—The hypogastric region was prominent, and was occupied by a globular mass resembling the pregnant uterus. Pubes covered with hair, labia majora well developed, introitus vaginæ absent, but represented by a shallow *cul-de-sac*. Perinæum distended. On rectal examination, a tumour, the size of a fœtal head, was discovered pressing on the perinæum. The bladder was pushed upwards and forwards. Congenital absence of vagina, with retained menstrual fluid, was diagnosed, and an operation was undertaken, to form a

vagina. During the operation about forty-eight ounces of dark, ropy fluid, resembling treacle, was drained away from the cavity. After a new vagina had been made, corrosive sublimate irrigations were carried out twice daily, and a glass stem worn. Five weeks after the operation the patient was walking about, and wearing the glass plug at night only.

The Etrological Relation of Cervical Laceration to Uterine Disease. By B. H. WELLS, M.D.

A careful study of 400 cases has led the author to conclude that (1) deep cervical tears do not increase, but lessen somewhat the productive fertility of those in whom they have occurred. (2) Cervical tears increase the proportion of backward and downward displacements. (3) While the average depth of the uterine cavity is but slightly increased in length, the frequency of hyperplasia uteri increases in proportion to the severity of the laceration. (4) Eversions and erosions, where there is a torn cervix, occur more often conjointly than singly, each reacting to increase or induce the other; both their frequency and importance increase rapidly in proportion to the depth of the tear. (5) Cervical laceration tends to produce disease of the uterus and predisposes to the development of cancer. (6) As the result of cervical laceration chronic parametritis is apt to supervene; oöphoritis and salpingitis, though not directly, are frequently indirectly started by cervical tears; various neuroses are frequently present and only cured by an operation on the cervix.

Treatment of Fibroid Tumours by Electricity. By VICTORIA SCOTT, M.D.

In this article the results of six cases of uterine fibroids treated by electricity are recorded. A short abstract of the cases will be of interest.

Case 1.—A single woman, 36 years of age, had for several years been troubled with menorrhagia, fulness and pain in the pelvis, difficulty in micturition. The uterus measured five inches. The diagnosis made was "interstitial and subperi-

toneal fibroid tumours." In the autumn of 1877, galvanism was applied twice weekly for forty minutes. The positive pole was placed over the pubes, the negative in Douglas' pouch. In December the patient suffered from much pain that kept her awake at night. Micturition less difficult. On January 2nd, 1878, the monthly period was less than formerly; uterus smaller. January 8th, an insulated needle was inserted into the tumour for five minutes, the negative electrode being used. January 18th, negative galvano-puncture for thirteen minutes. Not much difference in size of tumour. February 6th, the uterus was swollen and tender round seat of puncture. Menstrual period less; bearing down pelvic pains worse. March 1st, patient was better, but refused further galvano-puncture. September 1st, patient's condition improved; can now do some work. After this the patient only came occasionally for treatment. On January 24th, 1886, the author was informed that the patient had died after hysterectomy.

Case 2.—Patient æt. 34; first noticed an abdominal swelling and menorrhagia in June, 1879. In the following August she took medical advice. A hard tumour was found extending up to the umbilicus. "Vaginal and bimanual examination showed a hard virginal os, and a large hard body within the uterus. The sound could not be introduced." An intra-uterine fibroid was diagnosed and the faradic battery used once a week until December, 1881, "when the uterus had returned to its normal size." Three years after she had been discharged as cured, another small fibroid tumour was found in the posterior wall of the uterus. The tumour was about the size of a walnut. Four months of "tonics, ergots, massage and faradic electricity" and daily gymnastics dispelled this second fibroid.

Case 3.—Patient, aged 26 years. Complained of pain in the back, bearing down in pelvis, dysmenorrhœa. No hæmorrhage. Examination showed a thickening in the posterior wall of the uterus, from which a nodule the size of a walnut protruded. Subperitoneal fibroid was diagnosed. Treatment consisted of the use of the galvanic current twice

weekly. Relief was soon experienced, and after eight months' treatment the patient was cured. The poles in this case were placed, one in the vagina (which?) and the other over the abdomen.

Case 4.—Mrs. E., æt. 39, sterile; complaining of severe dysmenorrhœa and menorrhagia lasting for fourteen days. A vaginal examination showed a fibroid tumour about two inches in diameter, and three smaller ones on the posterior wall of the uterus. The sound passed into the uterine cavity a distance of three inches. The treatment consisted in the administration of ergot and the galvano-puncture of the largest of the tumours; the application lasting for twenty minutes. During January, 1886, five galvanic applications were made, each sitting lasting about twenty minutes. During February and March intra-uterine applications were made twice weekly. On April 1st, three months after the first application of the electric current, the condition of the patient was much improved. The dysmenorrhœa had gone; the menstrual periods were normal as to date and duration. The tumours were greatly reduced in size.

Case 5.—A married woman, æt. 34, sterile. The symptoms in this case were constant hæmorrhage and pain. Had been an invalid for three years. There was a large submucous fibroid, with many interstitial and sub-peritoneal growths. Treatment consisted in the use of galvanism twice a week, one pole in the vagina, the other over the abdomen. Each application lasted from fifteen to forty-five minutes. In two months the tumours had greatly diminished in size, and at the end of six months the patient discharged herself.

Case 6.—A married woman, æt. 25. Had one miscarriage six months after her marriage, five years ago. About January, 1885, her monthly periods increased in duration and became painful. In the posterior wall of the uterus there was a fibroid the size of a fowl's egg. The sound passed into the uterine cavity for a distance of 3½ inches. On January 14th, 1886, this fibroid tumour was treated by negative galvano-puncture and positive galvano-puncture for fifteen minutes.

Twelve cells of a Fleming's battery were used. On January 30th the negative current was applied round the tumour. One intra-uterine application of the negative current was made during February. On March 3rd the tumour was again punctured and the current applied for fifteen minutes. From this date until April 13th the galvanic current was applied twice weekly. After this the patient considered herself well, and no tumour could be detected. In all the cases but two besides the employment of galvanism, ergot and tonics were administered, but whether for only part or the whole of the time the patient was under observation, is not stated. The strength of the current used in each case is not stated, so that the record of the cases can hardly be considered complete.

THE BROOKLYN MEDICAL JOURNAL.

Multilocular Dermoid Cyst. Suppuration; Operation; Death. By C. N. Cox., M.D.

Mrs. W., æt. 27, married six years, was delivered of twins on December 6th, 1886, after a tedious labour. Immediately after labour abdominal tenderness and swelling set in, with nausea, vomiting and symptoms of peritonitis. On December 13th the lochia ceased; temperature 102°; pulse 100 per minute. There was extreme abdominal tenderness at this date, with some pelvic cellulitis. After an illness of some weeks' duration, the condition of the patient began to improve. The right side of the abdomen was now noticed to be fuller than the left; and on percussion and palpation an abdominal tumour about the size of a closed fist was detected. The tumour was baggy to the feel, but not tender. It was thought to be a fæcal mass and laxatives were employed, but without avail. On February 2nd, 1887, as the condition of the patient was serious, it was decided to aspirate the tumour. A medium-sized trocar was introduced, and a quantity of greenish offensive pus was drawn off. On withdrawing the trocar its nozzle was found to be stopped up with hairs. On February 4th abdominal section was performed, cocaine being applied

locally, while ether was dispensed with. The peritoneum was thickened and adherent, and on being opened about two quarts of pus escaped. The cyst was evacuated and removed, and the peritoneal cavity thoroughly irrigated with a sublimate solution 1 in 2,000. A drainage tube was then inserted and the wound closed. The patient died the next day. The cyst was a multilocular dermoid cyst of the right ovary. The author believes that had the cyst not been very small at the time of labour, its presence would have been discovered. He also remarks on the length of time that was allowed to elapse between the discovery of the tumour and the operation, but inclines to the belief that by delaying the operation the chances of saving the patient's life were greater.

OBSTETRICAL SOCIETY OF NEW YORK.

At a meeting of this Society held on January 3rd, 1888, Dr. Harrison narrated a case of extra-uterine gestation which had been cured by galvanism. The pregnancy was tubal, and had advanced to about the third month. Everything could be made out by the bimanual method of examination, and he had excluded every other disease, so that there was no doubt about the diagnosis. There had been no expulsion of a decidual membrane. The case had been considered by another physician as one of hæmatocele.

In the discussion which followed Dr. BACHE EMMET inquired if the sac had shrunk after treatment.

Dr. GRANDIN wished to know why galvanism had been used in preference to faradism. He doubted if the faradic was more dangerous than the galvanic current in these cases.

The PRESIDENT (Dr. Hanks) had used galvanism in one case with the best result. He asked where the poles should be placed by preference.

Dr. HARRISON, in reply, said the sac had shrunk. He thought the faradic current more likely to cause rupture of the tube than the galvanic current. With regard to the position of the electrodes, they should be placed so as to include as much of the sac as possible.

THE TRANSACTIONS OF THE ALUMNI ASSOCIATION OF THE WOMAN'S HOSPITAL, NEW YORK.

Moseley on the Influence of Cicatricial Tissue in the Angles of the Lacerated Cervix.

The author deals with this subject from a strictly clinical standpoint, and his endeavour is to demonstrate that the so-called cicatricial plug deep in the angles of the lacerated cervix does set up numerous and varied symptoms, and is the cause of, or perpetuates, the anæmia so commonly present in these cases. The presence of this "cicatricial plug" is denied by some gynæcologists, and entirely ignored by others. Amongst those who acknowledge the presence of this plug and the train of symptoms often set up by its presence are Mundé and Emmet.

Dr. Moseley is astonished that its presence is denied, as his experience has led him to believe that this plug is present in almost every case of lacerated cervix, and that it generally extends more deeply on the inner side of the uterus than on the outer side. This extension inwards of the cicatricial plug is, in the author's opinion, the reason that its complete removal can be effected more easily, and with less hæmorrhage than if the plug extended high up on the outer side of the uterus. Several cases are narrated in which this "plug" was removed from patients suffering various symptoms; and in every case the complete removal of the mass was followed by complete amelioration of the symptoms. In conclusion, the author advocates the complete and thorough removal of all cicatricial tissue from the angles of a lacerated cervix; by doing so our patients will be cured and the cause of gynæcology advanced.

Goffe on the Differentiation of Pelvic Cellulitis.

After shortly discussing the views held on this subject by various authorities, as, Worrat in France, Aran, Bernutz and Goupil, Simpson, Graily Hewitt, Emmet and others, the

author concludes that "cellulitis has been dethroned from the prominent position it has held in uterine pathology, and as a serious complication in gynæcological cases. In its place have come salpingitis and peri-salpingitis, oöphoritis and peri-oöphoritis, lymphadenitis and peritonitic bands and adhesions." The presence of cellulitis he does not deny in all pelvic inflammations, but clinical experience, together with the examinations made at autopsies and laparotomies, has demonstrated to him that cellulitis does not play the *rôle* formerly attributed to it. The serous membrane is the tissue chiefly attacked in all pelvic inflammations; cellulitis being secondary and of slight importance, as it is comparatively harmless in its action.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Influence of Obesity in Young Women upon the Menstrual and Reproductive Functions.

In a paper on this subject Dr. ANDREW F. CURRIER says: It is somewhat surprising that the law which evidently obtains in this matter has been so generally overlooked by modern and contemporary observers; at least I have found very little reference to it in recent literature. That law may be formulated in the following terms:

1. A woman under 30 years of age who bears four, five, six, or more children in rapid succession and suckles them, prematurely reaches the limit of her physical powers as a reproductive animal, the phenomena of the climacteric supervening. This applies to the average woman under present conditions of civilization, and, in a marked degree, to those who become obese after so frequent pregnancies.

2. A woman under 30 years of age who becomes obese, from whatever cause, will, as a result, be subject to amenorrhœa, or oligomenorrhœa (a term which I have proposed as a synonym for scanty menstruation) and usually to dysmenorrhœa, though menstruation may previously have been nearly or quite painless. If such patients be married sterility

will be the rule. This law, like most other laws, has more or fewer exceptions, but observation and reflection during a not inconsiderable experience have convinced me of its existence.

The Significance and Localization of Pain in Pelvic Disease.

By HENRY C. COE, M.D.

An interesting article read before the New York Neurological Society in 1887.

In a short *résumé* the author concludes: (1) That pelvic pain has its origin more often in the perimetric tissues than in any particular organ, being due to irritation of nerve trunks rather than nerve endings. (2) That the reflex, or transferred, pains commonly referred to certain lesions in the pelvic organs, may radiate from inflammatory foci in the peritoneum or connective tissue surrounding these organs. (3) That operations upon, or complete removal of, such diseased organs may fail to remove the pain for the reasons stated. (4) That this pain, like other nerve pains, may be sensibly relieved by the proper application of electricity.

ARCHIVES DE TOCOLOGIE.

A Contribution to the Study of Hydramnios.

By P. MANTEL.

In this interesting article, in which the author illustrates various points by the narration of cases, the pathogeny of hydramnios is chiefly studied. The author arrives at the following conclusions: (1) An undeniable and frequent coincidence exists between the insertion of the placenta in the lower segment of the uterus and hydramnios. (2) This coincidence seems to have escaped the notice of other observers on account of the difficulty of noting the exact point of placental insertion and the quantity of amniotic fluid. (3) The pressure on the placenta when that organ is inserted low down and the circulatory modifications which take place in the umbilical cord seem to be an obstacle to the natural current of the blood, and to be the cause of a venous stasis

and a very considerable exosmosis towards the amniotic cavity. (4) The channels by which this exosmosis takes place are probably those indicated by Léopold, Winkler, Levison, and Bar, especially if the persistence of the *vasa propria* of Tungbluth is admitted. This persistence is favoured by the excessive pressure in these cases. (5) The placental insertion in the inferior uterine segment does not explain every case of hydramni. But apart from syphilis and a certain number of cases of fœtal monstrosities, a vicious insertion of the placenta seems to play an important part in the production of hydramnios.

FRANCE MEDICALE.

Vaginal Antisepsis. By Dr. F. VERCHERE.

The value of antisepsis in gynæcological and obstetric practice is now becoming generally recognised, and to it much of the improvement in these two departments of medicine must be attributed. A few days before operation or childbirth, vaginal asepsis must be established, by employing solutions of carbolic acid, boric acid, bichloride or biniodide of mercury. Carbolic solutions, to be of use, must be used at a strength of 40 in 1,000, a strength too irritating to the mucous membrane; boric acid, on the other hand, is not powerful enough to destroy germs, and render the parts aseptic. Weak solutions of the mercurial preparations are the most efficacious, and should be administered by the medical man himself, twice a day, several days, before an operation or delivery. After irrigation by either of the mercurial solutions, tampons of iodoform cotton wool should be placed in the vagina, and left there until the next douche is administered. The odour of iodoform is obnoxious to most people, and may be destroyed by Tonga bean, or ground coffee. The same antiseptic precautions must be rigidly carried out after every gynæcological operation as are practised before.

CENTRALBLATT FÜR GYNAKOLOGIE.

Hæmatoma of the Vulva in the Non-Pregnant.
By HIMMELFARB.

Hæmatoma of the external genitals, except in connection with pregnancy, is of rare occurrence, and is generally the result of violence. The author cites the following case:—The patient, a married woman, 35 years of age, complained of a tumour in the external genitals, which had suddenly developed a week before. The left labium magus was the seat of a tumour, the size of a fist. It was tense, bluish in colour, extremely painful, and obstructed the vaginal outlet. No enlarged veins could be seen anywhere. The internal genitals were normal. The patient stated that immediately after violent coitus, she experienced great pain in the vulva, and shortly after a tumour developed there. Treatment consisted of rest, and cold applications to the tumour, followed by incision, and antiseptic irrigation of the cavity. The author remarks on the size of the tumour, and the cause, and suggests that the general hyperæmia of the genitals following coitus might account for the size of the tumour.

BERLINER KLINISCHE WOCHENSCHRIFT.

Laceration of the Cervix Uteri. By EMIL WŒGGERATH.

The following are the conclusions arrived at by the author:—(1) Women with lacerations are more likely to conceive than those without. (2) The position of the uterus is not affected by lacerations. (3) The axis of the uterus is not elongated in consequence of lacerations. (4) Erosions and ulcerations are as common in one class as in the other, and disease of the cervical tissues is not more common in lacerated than in non-lacerated cervices. (5) Lacerations have no influence in producing uterine disease. (6) Eversion of the lips is nearer the direct result of a laceration.

NEW INVENTIONS.

The "Compendium Douche" or Invalid's Self-help.

UNDER this name an invention has been registered which seems likely to prove serviceable to invalids requiring a douche for any purpose. A glance at the accompanying illustration will show the chief parts in the apparatus. The central arrangement is a flattened bag made of patent inodorous rubber, which is very durable, and capable of withstanding tropical heat. The bag is filled to any required capacity with water or other liquid, which may be medicated with any required drug, and used at any requisite degree of temperature. A tube, in which is a tap which must at first be closed, is then attached to the bag, and the latter is placed on a spring board in a neatly finished, flattened box, the lid of which is closed on the bag, whilst the tube passes out through an aperture in front. The box being then arranged in any convenient position, the outer free end of

the tube is next placed *in situ;* and the tap being turned on, the instrument is used. The bag automatically empties itself, and the flow of liquid therefrom is gentle, equable, and easily regulated by the height at which the box is placed, as well as by the degree to which the tap is opened. No effort on the part of the patient is necessary, and the patient may of course be in any convenient position in bedroom, bathroom, or W.C. As the liquid in the bag retains its warmth for an hour or two, it may be carried ready for use by doctor or nurse to the patient's house. The "Compendium" may be used as an enema, or as a douche to vagina, ears, nose, or possibly eyes, or for the irrigation of wounds, as bags of any capacity up to two quarts, or even a little more, are made and can be fitted to the instruments. The bags can also be used as hot water bags by screwing in the stopper instead of the efferent tube; and for rectal alimentation the small "Compendiums" appear to be thoroughly adapted.

The apparatus can be purchased (wholesale) of Messrs. A. Hutchinson and Co., 70, Basinghall Street, London, E.C.; of all chemists; and of the inventor and patentee, Miss M. P. Browne, 9, Blandford Square, N.W. The price is one guinea and a half.

CORRESPONDENCE.

TO THE EDITOR OF THE "BRITISH GYNÆCOLOGICAL JOURNAL."

46, QUEEN ANNE STREET,
CAVENDISH SQUARE, W.,
June 28th, 1888.

SIR,—At a meeting of the British Gynæcological Society, held on June 27th, Dr. Murphy exhibited a uterus and its appendages removed by Dr. Péan, of Paris. Dr. Murphy also gave a description of the operation as witnessed by himself.

May I be allowed to point out to readers of your Journal that a description of Dr. Péan's operation of vaginal hysterectomy for uterine fibroids, together with short clinical notes of a case, is to be found in the February, 1887, number of the BRITISH GYNÆCOLOGICAL JOURNAL. In the case there recorded the uterus reached above the umbilicus, and was the seat of multiple fibroids. Dr. Péan regards vaginal hysterectomy for fibroids not more dangerous than removal of the uterine appendages, while it is more efficacious; but it is doubtful whether it will, in this country at least, supersede oöphorectomy.

I am, Sir,

Yours obediently,

HENRY T. RUTHERFOORD.

NOTES.

Mr. LAWSON TAIT will read a paper on "The Methods of Success in Abdominal Surgery," at the annual meeting of the American Association of Obstetricians and Gynæcologists to be held in Washington in September.

We have to record the death on the 20th inst. at Brighton, at the age of 76, from an attack of apoplexy, of Dr. George Thompson Gream, who for a long time was one of the most prominent members of the medical profession in the west of London. Upon the death of Sir Charles Locock, Dr. Gream took the lead in the West-end midwifery practice, which he pursued with great professional success till his retirement some ten or twelve years ago. Dr. Gream attended the present Dowager Empress Frederick at Potsdam in all her confinements except the two first (when Sir Charles Locock was in attendance), and he was also physician accoucheur to the Princess of Wales, and for many years physician and consulting physician accoucheur to Queen Charlotte's Hospital. Dr. Gream was an M.D. of Aberdeen and a Fellow of the Royal College of Physicians of London and a Fellow of the Royal Medical Chirurgical Society. Dr. Gream was twice married—his first wife was a daughter of the late Mr. John Oddie, of Portland Place; and his second, who survives him, is Lady Gooch, the widow of Sir Edward Sherlock Gooch, of Benacre Hall, Suffolk.

At the Princess Helena College at Ealing we lately saw the pupils play a cricket match. Never having seen two elevens composed of girls play this game before we were much impressed by the adaptability of the game to the fair sex. As the bowling was not rapid, the batting not hard, the fielding was not calculated to over fatigue the players. No better, healthier or more appropriate game for girls than cricket, played sous-entendu, by girls only can be imagined. Any one who sees it will agree that it is infinitely superior to lawn tennis, or any other sport with which we are acquainted. We must con-

gratulate Miss Williamson, the lady principal of the College, in doing such a good work. It is to be hoped that her example may be followed in other schools for girls.

All books for review and exchanges should be sent to the Editor, 7, Queen Anne Street, London, W.

The Revue Illustrée de Polytechnique Medicale has undertaken to establish a general exhibition of medical and surgical instruments at the Paris exhibition in 1889. Inquiries from intending exhibitors should be addressed without delay to Devauchelle, 85 Rue Lafayette, Paris, or to Dr. Albert Leblond, 53, Rue d'Hauteville, Paris.

CONTENTS.

PAGE

MEETING OF THE BRITISH GYNÆCOLOGICAL SOCIETY, JUNE 13, 1888 299

BANTOCK ON OVARIAN BLOOD-CYST 299

DISCUSSION ON FIBROMA 303

EDIS ON UTERINE FIBROMA 304

LAWSON TAIT ON TUBAL PREGNANCY 305

LAWSON TAIT ON OÖPHORECTOMY 310

DISCUSSION ON OÖPHORECTOMY 314

MEETING OF THE SOCIETY, JUNE 27, 1888 318

R. T. SMITH ON DERMOID CYST 318

MURPHY ON OVARIAN SARCOMA 320

RUTHERFOORD ON ELECTROLYSIS 323

DISCUSSION ON ELECTROLYSIS 332

MEETING OF THE SOCIETY, OCTOBER 10, 1888 . . . 336

BANTOCK ON ECTOPIC GESTATION 336

PARSONS ON VICARIOUS MENSTRUATION 347

DISCUSSION ON VICARIOUS MENSTRUATION 349

MEETING OF THE SOCIETY, OCTOBER 24, 1888 . . . 351

LAWSON TAIT ON FIBRO-CYSTIC TUMOURS 351

PURCELL ON SARCOMA OF THE OVARY 353

DISCUSSION ON DR. PURCELL'S CASE 354

BLAND SUTTON ON OVARIAN CYSTS 357

BANTOCK ON UTERINE FIBROIDS 359

BANTOCK ON HYDRO-NEPHROSIS 361

DISCUSSION ON HYDRO-NEPHROSIS 363

R. T. SMITH ON TWISTED PEDICLE 369

DISCUSSION ON TWISTED PEDICLE 369

REVIEWS 371

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS . . 373

Hypodermic "Tabloids,"

Prepared by BURROUGHS, WELLCOME & Co.

The Hypodermic Tabloids are soluble, of uniform activity, and keep perfectly. In solution, whether prepared with an antiseptic or not, most of the active principles quickly undergo change. All the alkaloids and glucosides are perfectly preserved in the Tabloids, and may be quickly dissolved as required.

The LANCET reports that—"*They are readily soluble and not at all irritating.*" They present the advantages that the dose is always accurate, the active principle unchangeable, and that they are compact and perfectly soluble.

LIST OF HYPODERMIC TABLOIDS.

Prepared by BURROUGHS, WELLCOME & Co.

Aconitin .. .. 1-260 gr.	Ergotinin 1-150 gr. and 1-300 gr.	Morphine Sulphate 1-12, 1-8, 1-6, 1-4, 1-3 and 1-2 gr.
Apomorphine 1-15 and 1-10 gr.	Eserin .. .. 1-100 gr.	Morphine & Atropin Combinations
Atropin Sulp. 1-150, 1-100 & 1-60 gr.	Homatropin (unirritating) 1-250 gr.	Pilocarpin 1-10, 1-3 and 1-2 gr.
Caffein Sodio Salicylate 1-2 gr.	Hydrarg. Perchlor. 1-160 and 1-30 gr.	Quinine Hydrobromate 1-2 gr.
Codein Phosphate .. 1-4 gr.	Hyoscyamin 1-80 and 1-20 gr.	Sclerotinic Acid .. 1-2 and 1 gr.
Cocaine 1-6 gr. and 1-2 gr.	Hyoscine .. 1-200 and 1-75 gr.	Strophanthin .. 1-500 gr.
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THE BRITISH

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THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, JUNE 13, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 24 Fellows, 10 Visitors.

The following was proposed for election:—Dr. George Crichton, Twickenham.

Dr. BANTOCK exhibited:—

1. A case of multiple fibroid tumours of the uterus, weighing 1 lb. 9 ozs., removed from a single woman æt. 27. The attendant symptoms were severe dysmenorrhœa and menorrhagia, through which the patient had lost several situations. The dysmenorrhœa was so bad that she was obliged to lie up for two or three days, and the menorrhagia so great that she had become decidedly anæmic. The mass was removed by supra-vaginal hysterectomy on May 9th, and the patient is quite convalescent. A very small portion of the cervix was left, and for the last fortnight there was a free communication between the vagina and the stump hole along what remained of the canal of the cervix, but it was now nearly closed. He had observed this in several cases, but in all the fistulous track had closed and he regarded it as a

matter of no importance. On examining the specimen after the uterine cavity had been laid open, it would be seen that in addition to one tumour in the fundus forming the bulk of the mass there were numerous small fibroids scattered through the organ, and at least five small fibroids almost pedunculated in the cavity. He would like to have the opinion of those who had some knowledge of the electrical treatment whether such a case would be regarded as a suitable one for that method had this condition been known.

2. A case of large single fibroid of the soft œdematous variety, situated in the right wall of the uterus of a widow æt. 40, and weighing about 4¼ lbs. The tumour had grown rapidly up to two months ago, menstruation had been regular and quite moderate, but since then had become more and more abundant until in the last two periods the flow was excessive. Supra-vaginal hysterectomy was performed on May 28th, and the patient was quite convalescent, never having had a temperature over 99·8, nor a pulse over 88.

In both these cases he used his new serre-nœud and wire of Delta metal, and in the second case also a supporting pin of the same metal. There was a marked contrast between these cases and those in which steel was used, in the absence of any blackening of the stump, and of that disagreeable odour which was so inseparable from the use of the iron instrument and wire, and he would again commend it to the notice of his brethren. He had heard that the wire had broken in the hands of some operators, but he was quite sure the fault was on the side of the operator and not on the part of the wire. If properly treated it would stand any strain that was required.

3. A case of blood-cyst of the left ovary which he had removed on the 4th inst. from a married woman æt. 29. The patient had had one child five years ago, and had suffered more or less ever since, having had at least one severe attack of inflammatory mischief within the pelvis. Examination revealed a confused mass in the pelvis, of which the enlarged uterus formed a part, and as this had resisted all treatment

and the patient was in more or less constant pain, he had urged operation. On the left side a cyst was found universally adherent, and in separating the adhesions it very soon ruptured, giving exit to over half a pint of a thick black fluid. By this rupture the relations of the cyst were lost and it was with great difficulty extracted piecemeal. Careful examination of these very friable portions of the cyst wall showed that it was an ovarian cyst, with the fallopian tube attached to one of them. While he was confident he had removed the whole of the ovarian sac, it would be difficult to believe that these fragments represented a cyst capable of containing over half a pint of fluid. This tube was much enlarged and thickened, but without any imprisoned contents. The right ovary was in an early stage of the same form of disease, and with its adherent tube was removed. On breaking down some adhesions in the pelvis cavity so as to avoid having more than one pouch in which fluid might collect, he had occasion to separate a knuckle of small intestine and in doing so he had opened the gut, making a hole large enough to admit his little finger. This was stitched up with a double row of sutures. The peritoneum was well washed out and drained, and he was glad to say that the patient was quite convalescent without any trouble.

4. The fourth case was that of a lady, the mother of five children, who had been sent to him from India by Surgeon-Major O'Brien. There was a very long history of pelvic inflammation with attacks of severe pain and fever, temperature rising sometimes as high as 104°. There was a small tumour as large as a small cocoa nut in the left side of the pelvis, which was universally adherent and turned out to be a multilocular ovarian tumour with the chief cysts already communicating. But the chief interest lay in the condition of the right side appendages. For some time the patient had complained of sharp pain at times in that region, and she was told that the right ovary would probably have to be removed also. She was very anxious to retain it, but ultimately agreed to leave the decision of the question to his judgment at the time of the operation. Adhesions of the ovary and tube, and

distinct evidence of degeneration in the ovary compelled him to remove them, and he would like Mr. Lawson Tait to express his opinion on this question. There was not much risk of being blamed for not removing the second ovary, though he had recently been called upon to perform ovariotomy for the second time after a lapse of eleven years in the same patient, and had been asked why he had not removed this ovary at the first operation. His justification lay in the fact that the ovary at that time appeared to be healthy, and this would seem to be confirmed by the birth of twins (a boy and girl) within two years after the operation. But there was a decided risk in being blamed for taking away the second ovary. In this instance he was fortunate both in having the justification and the consent of the patient to the exercise of his own judgment. This patient was also convalescent, the operation having been performed on the 8th inst.

Dr. ROUTH said the first case was important as regarded practice. He agreed that the case was one in which electricity would have done no good, but he urged that they could not know this beforchand, unless they dilated the uterus and ascertained the condition of its interior. He said that a great deal of the discredit, which attached to the gynæcologist, was due to men getting hold of cases in which they did did not find out the exact nature of the tumour. In Dr. Bantock's case the cutting away of the tubes, expecting thereby to effect a cure, would have failed. Electricity also would have been of no more use than removal of the tubes. He went a step further and maintained that if the uterus had been well dilated by ante-septicized tents, though this might have been difficult, not by dilators, which were often dangerous, they might have been able to find out the presence, and to remove the intra-uterine tumours, and so stop the hæmorrhage. In reference to the blood tumour of the ovary in the other case, he remarked that Dr. Bantock had said nothing as to its etiology. He asked whether there was anything in the woman's history to account for it, either in the shape of arrest of the catamenia or imprudent

habits. He urged that gynæcologists ought to find out accurately what was really the matter before they decided on what course to follow, and they had no right to use electricity or anything else before they knew, or at any rate could shrewdly guess, the probable nature of the tumours, whether extra- or intra-uterine especially.

Mr. LAWSON TAIT challenged Dr. Routh's assertion that Dr. Bantock's first case was one in which electricity could have done no good. He said that if one believed the description published it was just in such cases that it should prove useful, otherwise it was of no use at all. He thought it was even a pity that it had not been tried in that case, but of course Dr. Bantock was not aware of the actual condition of things. As to dilatation, he said that in nineteen cases out of twenty it did no good, and in such a case its risk would be nearly as great as hysterectomy. He observed that they were beginning now to hear the other side of the story of electrolysis. A death had occurred last week at Liverpool, and he hoped they would have the details of the case. He mentioned that he had that day operated upon a lady who had been treated by electricity for months, not only without benefit, but with absolute detriment.

Dr. ROGERS agreed with Mr. Tait that such a fibroid had far better be removed. He did not believe that if they had dilated they would have been able to get the fibroid out. He had, however, seen electricity do a great deal in the removal of these fibroids, both small and large. He observed that he knew of one or two deaths that had followed this treatment, in London as in Liverpool, but the success had been great in others. There was a certain amount of risk when large fibroids, under electrolysis, became enucleated, blood poisoning might occur ere they could be successfully taken away. He claimed that electricity had in many cases brought about a cure with comparatively little danger, but this danger must not be ignored.

In reply to Dr. Routh, Dr. BANTOCK said he had not

dilated the cervix before deciding to operate, and it was probably fortunate that he had not done so, while it would have been very difficult owing to the hypertrophy of the lower segment of the uterine body and upper portion of the cervix. He was not aware that those who advocated and practised the electrical treatment were in the habit of ascertaining the exact nature of their cases. He believed they introduced the electrode in happy ignorance of what was in the cavity. He was of opinion that in such a case as the first he had shown it would have been a risky proceeding to apply a caustic current to the small fibroids projecting into the cavity, for it could only end in their sloughing out.

Dr. Rogers spoke of the operation of hysterectomy as a major operation. He (Dr. Bantock) on the other hand regarded an operation leading to the sloughing of a large fibroid as one much more entitled to this qualification. Regarding the case of blood cyst, he said he had no opinion as to the etiology. Indeed, he confessed his ignorance of the whole subject. But he was very decidedly of opinion that there was no connection between such a cyst, and what had been called "bad habits."

Dr. EDIS showed a specimen of a large fibroid, similar to the one exhibited by Dr. Bantock. The history of that case was of great interest. It was very large, and occurred in a young woman, a widow, 23 years of age. She was a barmaid, and as she had a very prominent abdomen, her appearance gave rise to observations which seriously interfered with her prospects. Two and a-half years before she had given birth to a living child, the confinement being followed by some trouble. Two years later she again became pregnant, but miscarried at an early date. Shortly after this hæmorrhage declared itself, and was so severe that on one occasion she was left for dead. She rallied, however, and was enabled to resume her duties, but her great desire was to get rid of the tumour. Dr. Edis thought that by removing the ovaries the bulk of the tumour might diminish. He found it so difficult however to get at

them that, in presence of so large a growth, he determined to remove it in its entirety. This he effected by operation in the usual way, and the patient recovered without a bad symptom.

Dr. Edis also showed a second specimen consisting of two ovaries, one of which was very much enlarged, and the other shewed signs of commencing cystic disease. They had been removed from a patient with a fibroid not larger than the double fist. In that case the hæmorrhage was the reason for consenting to surgical interference. When the patient came to him she was very prostrate and almost pulseless, and the first thing was to improve her general condition. He gave her *hydrastis canadensis*, and it certainly checked the hæmorrhage. She soon improved, but as the next period was very profuse he succeeded in inducing her to consent to an operation. On opening the abdomen he found the larger ovary was packed down behind the fibroid in the posterior *cul de sac.* He removed both ovaries; the patient made a good recovery.

In reference to Dr. Routh's suggestion to explore the cavity of the uterus beforehand, Dr. Edis observed that the result was very often to set up some cellulitis which deferred the operation and even increased the risk. He suggested that it would be well if they considered the best way of dealing with these cases, whether they ought to dilate and attempt removal of any tumour projecting within the uterus.

In the first case, it was the size of the tumour and not the hæmorrhage which necessitated interference, the converse being the case in the latter instance. In neither patient would dilatation of the cervix and exploration of the uterine cavity have been a prudent plan. Nothing would have been gained by it in the first, and distinct risk to the patient would have followed in the latter case.

Mr. LAWSON TAIT called attention to the matter of a personal nature concerning some remarks made by Dr. Howard A. Kelly, before the meeting of the American Medical Association at Cincinnati, in reference to a recent exhibition of specimens before this Society. He read a passage from the report to the effect that "Mr. Tait jumped

at his diagnosis in extra-uterine pregnancy. I have also heard that he makes his incision, runs in his hand, pulls out something, says extra-uterine pregnancy and throws it away. Now it will take more than that to make a diagnosis. We must have the sections under the microscope and make a thorough examination." He would take that opportunity of saying that the statement was absolutely inaccurate. As a matter of fact, there was not a single preparation of specimens removed from patients upon which he could not at any moment lay his hands. They were all either in his own possession or in those of friends, from whom he held receipts, and the great majority were in the museums of public institutions, in the Royal College of Surgeons and Queen's College.

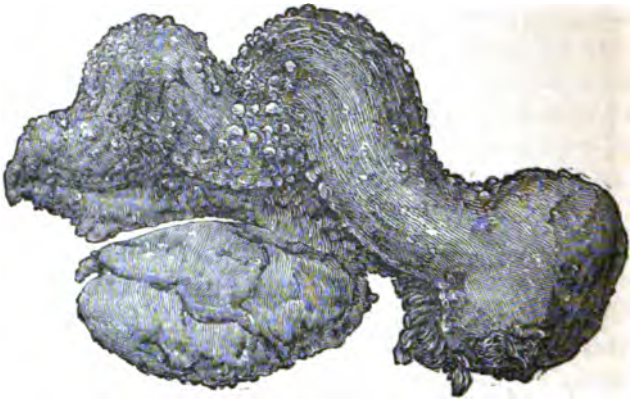
He then brought before the Society a rather extraordinary case of ruptured tubal pregnancy. The patient was sent to him two weeks ago with a history of having just recovered from a severe attack of ovaritis. She was twenty-eight years of age, had been married nine years, had three children, the last ten months ago. She had been ill ten months, losing a good deal of blood, with pain in lower part of abdomen, and was really ill. A large cystic mass could be felt in the pelvis rising three inches above the brim. He considered that it was a case of suppuration, and therefore opened the abdomen. It turned out to be nothing of the kind. The broad ligament on the left side was distended with a large quantity of blood clot, and it was very difficult to ascertain what the condition really was. In the Fallopian tube of which he had laid open the mamilla, he found the ovaries in the centre. The patient was not very intelligent, and no past history was obtainable. There had been nothing to lead one to suspect pregnancy, but the anatomical relations of the parts made it clear that it was a case of tubal pregnancy which had ruptured into the broad ligament. Had he known, he might of course have operated from the vagina, but on the whole, even if he had known, he would have done exactly the same thing, for there were evidences of quite recent bleeding into the cavity, and that might have continued unless the broad ligament had been tried. The patient did well.

Another interesting specimen was that from a case, the wife of a foreign Fellow of the Society. Two years ago the gentleman came to him about his wife, saying that she was suffering from acute peritonitis. She had not had any children, but had been married nine years. She had had several attacks of peritonitis. He at once told him that it was probably a case of pyo-salpinx, but as she was then under the care of a celebrated physician in London, who objected to operations of the kind he (Mr. Tait) and others were in the habit of performing, the patient did not come to him. She went home very ill and had been ill ever since. She turned up the other day from America, firmly determined to have something done and with a letter from her husband asking Mr. Tait to do what he thought best. The symptoms and signs alike justifying interference, Mr. Tait operated, and it turned out to be a case of double pyo-salpinx, the recurrent rupture of which had caused repeated attacks of peritonitis. She recovered without any trouble.

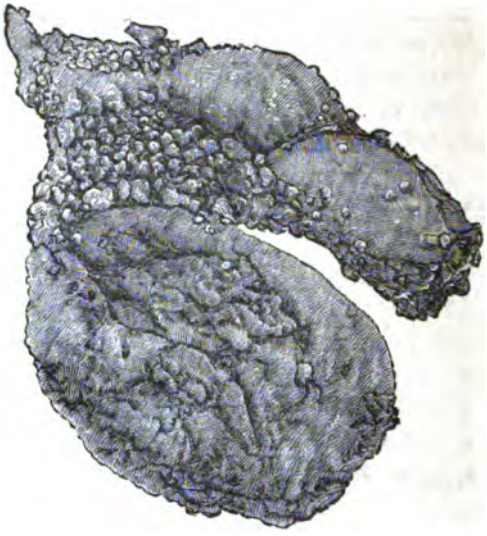
The third case was more interesting than either of these. Some time since he read a paper on extra-peritoneal cysts, and by a curious coincidence he had two of these rare cases within a week. The first was in a child of fourteen, and he had, at first, taken it for a parovarian cyst. On the operating table an alteration in the zones of resonance and dulness rather puzzled him, and on opening the abdomen he found it was one of those extra-peritoneal cysts lined with the usual amniotic-looking membrane. Bearing in mind the somewhat ghastly results of drainage in these cases, he scraped the wall, washed the cavity well out and then filled it with water, hermetically closing the wound. The high temperature at once subsided, and there had been no appearance of the sac refilling. He considered that he had hit upon a very satisfactory way of treating these cases. If it refilled, he meant to tap it and inject iodine. In future he would do this at the time of operation.

In the second case there were very acute symptoms. The patient, a woman aged twenty-one, looked very ill; he recog-

nized the condition at once, but in addition, he found the two Fallopian tubes greatly distended, covered with granulations



Right Tube and Ovary.

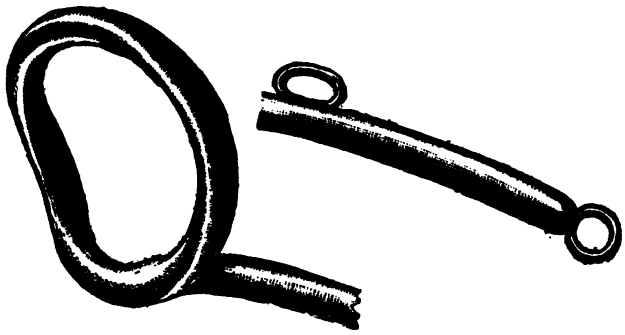


Left Tube and Ovary.

and full of a cheesy material, being the second case in which he had met with tubercular disease of the tubes occurring in

the cysts. Curiously enough, in every case the condition was exactly the same. The first patient recovered, and has since continued quite well, and so far this young woman had done well also. There were incontestable proofs that the stuff was tubercular, though they had not yet succeeded in identifying the bacilli — a point to which he attached no importance. Mr. Tait shewed stained sections of the tubes prepared by his assistant, Mr. Teichilman. If this patient should also recover, and it was really tubercular matter, it would go far to render necessary a revision of their views on the pathology of tubercle, which might after all prove to be a merely local disease. (She did recover.)

Mr. Tait then showed an instrument which he had designed to assist in the reduction of inversion of the uterus. He had had two cases of chronic inversion of the uterus in twelve months. He had tried to reduce the first one with the ordinary cup apparatus, but failed completely, alike with straight and bent stems. Two other men had tried and had also failed. Another patient came under his care in March, and he again tried the cup arrangement, always with the same want of success. The patient ultimately got tired of the treatment, and went off. In the course of a month, however,



she returned, with a severe attack of hæmorrhage, when he made another unsuccessful attempt. He then used his instrument to press against the ring of constriction.

That time he almost succeeded, but on employing the cup apparatus at the same time it went back at once. He thought that in future all cases would prove to be amenable to treatment, by a combination of these two instruments, one to dilate the ring of the cervix, and the other to push up the fundus.

Note on the Influence of Removal of the Uterus and its Appendages on the Sexual Appetite. By LAWSON TAIT, F.R.C.S., Professor of Gynæcology in Queen's College, Birmingham.

RECENT events have drawn much attention to this subject, and the strangely contradictory evidence given in a court of law has given it a prominence which otherwise it hardly deserved. From the many careful enquiries I have made (the conclusions from which I have already published), I have arrived at the opinion that the reason of this diversity has been that some of the witnesses have been hasty in their conclusions, and that further and more careful enquiry will not justify what they have said on the subject, nor will it in fact justify the beliefs which are popular on this subject. On some points these beliefs are singularly erroneous. For instance, it is believed that removal of both testicles in a man deprives him not only of the power of impregnating a woman, but also of the power of engaging in sexual intercourse. The only ground for this belief, freely asserted in many published authorities, seems to be one of those hastily constructed conclusions which are not substantiated by facts, and nowhere can I find any facts in support of it. It was in fact a conclusion based on false analogy. Granted that the removal of both testicles from any animal before it has reached puberty will not only deprive it of the power of procreation but will prevent the development of the sexual appetite, it by no means follows that removal of the testicles of an adult male will do more than prevent him procreating. The evidence as supplied by the lower animals is certainly conflicting, but it points in the direction that the desire for intercourse and

the power of engaging in it is not destroyed by removing the testicles after puberty, but it is qualified by this curious fact, in some animals at least, the females seem to have means of knowing, probably by smell, that such a male is imperfect and they will not permit of his approach. The only case in which I have been able to note the evidence personally was that of a powerful black retriever dog who had been emasculated when about four years old (the reason of this absurd treatment I could not discover), and who betrayed every evidence of desire and power for intercourse for a bitch in heat. But she would not permit his approach and flew at him, wounding him sorely, with a fury that was extraordinary, making it, as it seemed to me, most undesirable to repeat any such experiment. It was clear here also, as in other experiments on the lower animals, that no conclusions can be drawn from them which are applicable to mankind, where reason enters largely into sexual relations as well as the mere instincts of brute nature.

I therefore sought long and earnestly for the record or experience of the case of a man from whom both testicles had been removed, for I had been applied to by a clergyman for relief from most troublesome symptoms which he believed would be cured by removal of both testicles. If I could have found a case where both testicles had been removed from a man some years after he had reached adult life, and in whom the sexual appetite and all sexual power had thereby been destroyed, I should have complied with this clergyman's request—I believe I should have been justified in doing so—but I could find no such record, I could hear of no case indeed where both testicles had been so removed.

But lately I have by the purest accident had such a case brought under my notice. A gentleman, now forty-seven years of age, had one testicle removed for scrofulous disease when nineteen. He married at twenty-seven and has had five children. He says that neither before nor after his marriage has his sexual appetite been very aggressive, and I think that the recital of the details he gave me entirely justify this opinion.

At thirty-nine years of age his remaining testicle became affected by a growth which was said by the surgeon who operated to be cancer, and it was removed.

This occurred in India, and I have been unable to trace the surgeon who did the operation, or get any information beyond the patient's statement.

The patient says that for some months after this second operation he was afraid to attempt intercourse, partly for fear he might do himself some harm, but mostly for fear of making his wife unhappy by his failure. But gradually his old habits were resumed, and now he has intercourse with his wife as frequently and as satisfactorily for both as was the case when they were first married. He volunteered a statement which is very curious, that for about two years after his second operation he was satisfied he had emissions, but now he knows he has not, but has all the feeling as if he had.

Here, then, is the first piece of evidence I have been able to lay my hands upon regarding the results of removing both testicles from a healthy adult man, and it is completely at variance with previously accepted doctrines. Some other cases of a similar kind may probably be unearthed, and it is very desirable that we should have them on record.

From very interesting inquiries in cases where one or both ovaries have been removed for very many and various reasons, and at all ages between seventeen and sixty, I have satisfied myself absolutely that their ovaries have as little to do with their sexual appetites as their front teeth have. The test cases are not those where the operations have been performed on women after marriage or the experience of sexual intercourse. Evidence of the retention of the sexual appetite in most cases would mean nothing at all. But the evidence of women who have been operated upon in early youth, in a condition of ascertained virginity, who have married afterwards, and yet in whom a sexual appetite has been developed, is absolutely unanswerable.

I know seven such cases.

1. Both ovaries removed for cystoma at the age of sixteen.

Married four years after and has, according to her husband, a perfectly satisfactory sexual appetite.

2. Both ovaries removed for cystoma at nineteen. Married exactly twelve months after and has, according to her husband, a well-developed appetite.

3. Both ovaries removed for cystoma at the age of sixteen, married at twenty-five, and is said by her husband to be distinctly aggressive.

4. Both appendages removed at nineteen for pyo-salpinx (? tubercular), and married at twenty-four ; has a perfectly satisfactory appetite.

5. Both ovaries removed at twenty-four for cystoma and married at thirty ; she has a distinctly aggressive appetite.

6. Both ovaries removed at twenty-five for cystoma and married at thirty ; responds to her husband, but seems to have little desire for intercourse.

7. Both sets of appendages removed at thirty-seven for myoma, married at forty-one, has a satisfactory appetite.

In all these women the marital life had extended over five years before I made interrogatories, and they are all that I have had opportunity of questioning, for of course I would not think of making such an investigation wholesale, nor, I own, where it might be part of my duty in subsequent association with the case to do so. Further, the evidence given is always that of the husband, for many reasons a better witness than the patient herself.

Still more remarkable is the evidence obtainable in the cases of those young women from whom I removed the uterus and its appendages for large myomatous tumours, not only before their marriages, but when they were, as ascertained by physical examination, in an absolutely virginal condition.

1. Hysterectomy was performed at the age of twenty-seven for a tumour weighing thirteen pounds. The patient has never menstruated since the operation and has gone through a prolonged and very pronounced climacteric. She married four years and a half after the operation and has, from the very first, shown decided sexual receptivity.

2. Hysterectomy was performed at the age of twenty-eight for a rapidly growing soft œdematous myoma which weighed about thirty-eight pounds. She has never menstruated since and has had absolutely no climacteric symptoms. She married twelve months after the operation and has shown a sexual competency which her husband regards as satisfactory.

3. Hysterectomy was performed at the age of thirty-five for a large multinodular myoma weighing about nine pounds, because the appendages could not be removed. She married two years after the operation, after having gone through a feebly pronounced climateric. Her married life has now extended over four years. Her husband tells me that at first she was very averse to intercourse, in fact, he thinks it was not completed for nearly a year. But slowly her aversion was overcome, it being due, as he thinks with great probability, to fear, and now he says she is quite as complaisant as a woman can be, and he confesses that he can give an opinion based on a wide experience.

This subject can hardly be regarded as a pleasant one to write about, but the ridiculous assertions made in open court by men who were in a state of acute prejudice, and who had evidently nothing but tradition to go upon, has made a distinct impression alike on the mind of the public and the profession. But in face of the facts now narrated, a re-examination of the question must be made, for it is quite clear that the seat of the sexual appetite in men is not in the testicles and in women it exists neither in uterus, tubes, nor ovaries.

Dr. BANTOCK had never regarded the matter of any importance, but from the few observations he had made the results agreed with those of Mr. Tait. The instances quoted by Mr. Tait and the evidence generally went far, in his opinion, towards settling the question. His observations amongst the lower animals went to support the statement that castrated animals were capable of erection, and he was under the impression, from his reading, that eunuchs were also capable of the same.

Dr. HARVEY agreed as to the general result of removal

of the ovaries on the sexual appetite, but he had had a singular experience which seemed to show that this was not always the case. Some five or six years ago he removed the ovaries from a Jewess in order to check severe hæmorrhage. The effect was to stop the hæmorrhage at once and permanently, and the patient became fat and flourishing, but for several years after she made his life a burden by coming to the hospital once a fortnight to reproach him with having deprived her of sexual feeling. The husband bore out her complaints. He remarked that in India it was generally held that unless the pelvis was removed together with the testicles, eunuchs were not safe custodians for women even when the operation was performed before puberty. Of this, however, he could only speak from hearsay.

Dr. HEYWOOD SMITH agreed from experience with the view that the sexual appetite was not, as a rule, interfered with. He said that when the subject was discussed at another Society a leading gynæcologist took the opposite view, and the general concensus of opinion seemed to be on his side as against his (Dr. Smith's) view. He added that the subject was one of great importance. Referring to the fact that the lives of some women were a misery to them on account of excessive sexual desire, he said the best, and indeed the only, remedy in his opinion, was clitoridectomy.

Dr. FANCOURT BARNES said that the difficult point in this question was its being entirely a subjective one. They had only the *ipse dixit* of the patient as to the presence or absence of sexual desire. He mentioned the case of a woman, said to have been very erotic, whose sexual desires apparently disappeared after he had removed the ovaries. He suggested that women might simulate orgasms out of a natural desire to retain the affections of their husbands. He was unable to understand how the removal of the appendages could increase the sexual feelings.

DR. ROUTH observed that women over seventy were not supposed to possess sexual feelings, the ovaries, &c., being atrophied, but he knew a woman of seventy-eight who ex-

perienced extremely erotic feelings on going to stool, and was only cured by clitoridectomy. Moreover, they were also all familiar with withered old women who became insane and intensely erotic. He brought these examples to prove that the seat of sexual feeling was neither in the uterus nor the ovaries. It certainly had been traced as taking its origin in the genito-spiral centre of Büdge. He pointed out that children of four or five were also known to exhibit powerful erections, in whom there could certainly be no sexual desire possibly present, and, therefore, the cause must be elsewhere than in the organ of generation.

Dr. MANSELL-MOULLIN said that the profession largely shared in the popular notion on the subject. He observed that no surgeon would hesitate to remove the uterine appendages when they were obviously enlarged and diseased, any more than he would hesitate to remove the testicles, without giving a thought to the sexual proclivities of the patient. There was, however, a class of cases which the surgeon did not approach with anything like the same degree of boldness. There were women whose sufferings were undoubted and whose lives were a burden to themselves and their friends, but the uterine appendages were not manifestly diseased. No one doubted the great benefit that could only be obtained by their removal, but the fear of what was called "unsexing the woman" acted as a restraining influence and the case was allowed to drift on indefinitely. If they were only fully convinced that such was not the fact, that the sexual feelings were not in any way interfered with, their hands would be much freer to deal with such cases.

Mr. LAWSON TAIT, in reply, expressed his gratification at the reception his paper had met with. He was glad men came to hear statements with an open mind. He did not wish men to fling away the traditions of their fathers merely because they were the traditions of their fathers. He alluded to a passage in a work by Dr. Spencer Wells in which it seemed distinctly stated that he had a belief that removal of the

appendages created remarkable changes in the appearance of women. He often wondered where the statement came from. He had traced it back in this case to a work dated 1847, and he did not doubt that if he had time he could trace it back to the fifteenth century or earlier. Dr. Harvey had told them that even if castration in men were performed before puberty, the sexual appetite was not entirely suppressed; how much more likely was it then that the appetite would continue in persons who were operated upon when past the age of puberty. He observed that the sexual appetite in women often disappeared during the climacteric period, but reappeared after it was over. He knew a certain number of cases in which the woman had become distinctly erotic, and if this proved to be general he should have some compunction in removing the appendages, as there was quite enough sexual trouble in the world without adding to it.

Dr. HARVEY added that his patient was not aware of what had been done to her, and her tale was therefore in all probability genuine. Mr. Tait agreed that this result might occur in exceptional cases, but it was clearly not at all the rule.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, JUNE 27, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 25 Fellows, 6 Visitors.

The following was elected a Fellow of the Society:—Dr. G. Crichton, Twickenham.

The following were proposed for election:—Dr. Clarence Atwood Baker, Portland, Maine, U.S.A.; Dr. Rolph Leslie, London; Dr. A. Anvard, Paris.

Dr. R. T. SMITH showed a small dermoid tumour about the size of a duck's egg. When removed it was quite elastic and was put up in spirit for preservation; on opening it some days subsequently it was found to consist of fat (solidified) in which were imbedded a plaque of cartilage and numerous black hairs.

The patient was thirty-five years of age, had had five children, the youngest eighteen months ago. She complained chiefly of dysmenorrhœa, and severe and frequent dysuria. Having been under treatment almost a year, and having lost much flesh, abdominal section was resorted to. The tumour lay prolapsed behind and to the right of the uterus. The left ovary was found to be partially invaded by cystic degeneration, and was therefore removed.

In consequence of rather free oozing of blood due to numerous adhesions, it was thought advisable to leave in a drainage-tube. The pain was very severe, but by the end of the second day all blood-staining of the serum had ceased. On now attempting to withdraw the glass tube, this was found to be absolutely fastened in the abdomen by omental worm-like bands, which had intruded through the apertures in the end and side of the tube, filling it quite to one half its length.

It was only extricated by opening up the wound half an inch on each side and applying fine ligatures (catgut) to nearly every band. No bad result followed.

Dr. Smith remarked that the precaution of gently moving and rotating the tube had been taken.

In answer to Dr. Bedford Fenwick, Dr. Smith stated that he had met with a similar case more recently, and was therefore led to elicit the experience of the Fellows in similar cases. The operation was done on a Thursday. On the Friday and Saturday the tube was rotated, but on the Sunday morning on attempting to withdraw it he was completely foiled, although the tube could be turned once and a half round. With the ingenious assistance of the House Physician (Dr. Burford) a loop of platinum wire, red hot, was passed down the tube, and on finding the tube could bear the heat, a long silver probe was repeatedly heated in the spirit lamp and each worm-like band was scorched. In this way the tube was released in half an hour, and no harm whatever followed. In each instance Keith's tube was used.

In answer to the President, Dr. Smith stated that the patient complained chiefly of pain during menstruation, which was not excessive. The chief feature in the case was the loss of flesh and great debility.

Dr. HEYWOOD SMITH said that the small pieces of omentum were constricted by the holes in the tube, and so swelling were unable to be got back. He suggested that the nurse should be instructed to rotate the tube every few hours, so as to prevent such a thing happening. Then if some small pieces of omentum did work their way in they would not have much time to swell within the tube.

Dr. BANTOCK said the accident was not very uncommon. Out of a large number of cases in which he had used a drainage tube, it had occurred several times; but he had never thought it necessary to do anything to obviate it, because he considered that the less the tube was disturbed the better for the patient. His method was to take care that the holes in the tube were not too large. He had remarked that the

omentum generally selected the largest hole. On one occasion he had to place a ligature upon the omentum, so large was the piece that came out; but in the other case he simply pushed it off with a sponge, and allowed it to go back. He had never seen any unpleasant symptoms follow.

Dr. MURPHY (Sunderland) showed a sarcoma of the ovary removed from a girl of sixteen. Her mother had noticed that she was getting bigger for several months past, the mistress assumed that she was pregnant, and sent the girl to Dr. Shapter Robinson, who diagnosed the case and sent her on to Dr. Murphy. On admission she had no pain, and was in apparent good health. There was an enormous tumour extending from the pubes to four inches above the umbilicus. No fluctuation, and the tumours appeared to be quite solid. Some three weeks ago he opened the abdomen, and removed the tumour without much difficulty, there being no adhesions. Not a single ligature was applied except to the pedicle. The temperature never rose above 100° Fahrenheit, and she made a rapid and excellent recovery, without a single bad symptom. The other ovary was affected in a similar way by a tumour weighing three ounces, and he therefore removed it.

The point of interest was that so young a girl should have had so large a tumour without symptoms of any kind and her good condition after its removal. She had menstruated for the first time ten months previously. The tumour weighed fourteen pounds and ten ounces, and Dr. Squance has furnished the following report on its nature:—

The growth is a small round-celled sarcoma, in some portions resembling more a lympho-sarcoma. In places well-developed bands of fibrous tissue are seen. It is well supplied with blood-vessels, some of which are quite embroynic. The normal tissue of the left ovary has entirely disappeared, with the exception of the remains of a few Graafian follicles. In this new growth is also a small round-celled sarcoma precisely resembling the large tumour. In both cases the new growth has evidently commenced in the connective tissue stroma of the ovaries.

Dr. Murphy then showed a uterus which had been removed by Péan's operation. The method consisted in having the vagina well retracted, and then, with large forceps, the uterus was pulled down. He then cut round the cervix with a knife, and completed the separation with scissors, applying pressure forceps to bleeding points. The uterus was thus removed with hardly any hæmorrhage. Last week he saw Mr. Péan remove three very successfully, and in very little time, and with very trifling hæmorrhage. He leaves the forceps in for twenty-four hours, and clamps the broad ligaments.

Dr. BANTOCK said that from an examination of the specimens the operation was one of unexampled severity, looking at the reason for which it was performed. It was one not likely to become popular in this country, where it was considered serious even to remove the ovaries.

The PRESIDENT mentioned that at the preceding meeting the treatment of fibroids was under consideration, and they had now another method of treatment before them. They had to consider which was the safest way of doing it.

Dr. ROUTH said that when there was more than one fibroid, partly parietal and partly mural, as ascertained clearly after dilation, he was in the habit of taking hold of one of the fibroids at a time, and twisting it away piecemeal, taking perhaps three different sittings to complete the operation. In one case where there were three tumours the size of an orange, he did this. There was no hæmorrhage after the first, and he removed the second in about three weeks, in the same way, also without hæmorrhage. Immediately after the operation he sponged the whole cavity of the uterus out with strong iodine, and the case did remarkably well. He did not think there was any danger in twisting such a fibroid, provided they adopted antiseptic measures. In another case the lady was flooding tremendously, and although the operation had to be repeated every second day for six weeks, she did well and was now a perfect and healthy woman of thirty-five. He did not think, therefore, that this operation, which

was recommended for taking away the uterus wholesale, as well as the tumour, was likely to find favour, and he hoped it never would. It had no advantage over abdominal section, and to hear the case was to condemn it.

Dr. EDIS asked whether Mr. Péan took any precautions to prevent the ingress of air.

Dr. MURPHY said that antiseptic surgery was not very thoroughly carried out in France. M. Péan left fifteen or sixteen pairs of forceps attached, and they constituted a very picturesque sight. Between the forceps he put little pledgets of absorbent wool with iodoform. He observed that Dr. Bantock had no hesitation in removing ovaries, and it was merely a question of justification. He had asked what was the mortality after the operation, and M. Péan had replied that he did so many hundreds that he could not tell at the moment, but full statistics are in the press and will be published in a few weeks.

Dr. PURCELL said he had now done seven cases of vaginal hysterectomy. A case in which the vagina was very largely occupied by a large tumour, he had to deliver it by a pair of midwifery forceps before being able to apply the écraseur to its pedicle. Very soon after another tumour presented itself in the site of the old one, and this was removed simply by incising the cervix and allowing it to extrude. That woman eventually died from the presence of other large fibroids which became malignant, and he was convinced that that uterus might have been taken out per vaginam in the first instance with very great advantage to the patient, although it was not justifiable and possibly not feasible to remove the fibroid uterus afterwards. He said that the record of vaginal hysterectomy was not very severe. The pressure forceps placed on the broad ligament was certainly a safe method of restraining hæmorrhage, but he had always applied ligatures in his own cases and was able to remove all forceps at the time of operation.

Dr. HEYWOOD SMITH quoted a case from the Hospital for Women in which he removed a large intra-uterine fibroid

as big as the fist. The cavity was free, yet within a few days' time another one just as large was presenting at the internal os. He thought that possibly the contractions which had been set up by the removal of the first might have led to the expulsion of the second from the uterine walls in which it may have been imbedded, or that the second tumour was growing high up from the fundus, or that indeed it was part of the original tumour.

Notes of a Case of Uterine Fibroid treated by Electricity. By HENRY T. RUTHERFOORD, M.B., Cantab., M.R.C.P., Assistant Physician to the Chelsea Hospital for Women.

M. E., 38 years of age, married fifteen years, the mother of three children, the last being born ten years ago, was admitted into the Chelsea Hospital for Women on November 5th, 1887. Her previous history contains nothing of special interest. Her health has generally been good, except on two occasions when she suffered, first with pleurisy, and later on with an ulcer of the bowel. The catamenia first appeared when eleven years old and were always irregular, especially after marriage. Quantity at first moderate and lasting five days. In May, 1881, she noticed the periods were becoming more regular and profuse and lasted ten days. Menorrhagia continued for the next three years, the duration of the period lasting fourteen days. In 1885 metrorrhagia first came on and was severe. To quote her own words "the floodings were so profuse and often with so very little interval that I was compelled to remain in bed."

For over a year before her admission to the hospital she was scarcely ever without floodings or some coloured vaginal discharge. She states that in 1883 she first noticed a lump on the left side of the abdomen which has gradually been increasing in size. Has been treated for fibroid tumour of the uterus for years, but without any seemingly good effect. For a long time past has been an invalid, owing to the flood-

ings, which have reduced her strength greatly, and which come on after the least exertion. Suffers much pain in the left side of the abdomen, together with dragging pains in the back and bearing-down pains in front passage. At times there is dysuria. There is great difficulty in walking owing to the dragging pains in pelvis and shooting pains down the inside of the thighs. Was told by her medical attendant that she must make up her mind to live a life of misery until the climacteric.

On admission to hospital a mixture of ergot and strychina was administered to the patient as she was flooding. On November 12th the flooding ceased, and on November 14th a vaginal examination was made. The cervix was hard, enlarged, and nodular from an old laceration. The uterus measured 4½ inches, the sound passing rather to the left of the middle line. On the left of the uterus and filling the left iliac fossa, was a large soft fibroid tumour, interstitial in character, with an oval nodule, rather larger than a hen's egg, pressing into the pelvis. Uterus and tumour moved as one body. By abdominal examination the tumour was found to occupy chiefly the left side. It extended to within a quarter of an inch of the umbilicus above and about an inch beyond the median line on the right side. Measurement round body at umbilicus was 32 inches; three inches below umbilicus 38 inches.

November 21st: As the patient's general condition had improved, treatment by electricity was adopted. The battery employed was a Stohrer's; the current continuous; the electrodes somewhat similar to those advocated by Apostoli. The positive electrode was a large convex copper plate covered with moistened cloths instead of clay, and held in position over the abdomen by the patient. The negative pole was passed into the uterus and the galvanic current allowed to pass. The intensity of current was gradually increased up to 120 milliampères and then gradually lessened. Duration of sitting, ten minutes. Resistance of body 250 ohms. The patient complained of no pain, only a sense of pricking over

the abdomen during the passage of the current. After the application of the electricity a vaginal carbolised douche was given, and the patient expressed herself as feeling none the worse. The same evening the temperature rose from 98° to 100·4°, but quickly fell again, and on the morning of the 23rd November was normal.

November 24th: "Galvanic current applied for ten minutes. Maximum intensity of current 100 milliampères." This intra-uterine application caused some pain, especially on the right side of abdomen. This was accounted for by the fact that the copper plate of the positive pole was not properly covered by the linen cloths. Where the rounded edge of the positive pole had been in contact with the skin on the right side of abdomen there was a great deal of redness and superficial pain. A carbolised vaginal douche was not given until about an hour after the application. Measurement of abdomen round umbilicus 32 inches; three inches below umbilicus 37 inches. Temperature on morning of application 98°; in evening of same day 100°, but fell next morning to 98°. No pain or discomfort complained of after removal of positive electrode from abdomen.

November 28th: Intra-uterine galvanic current passed for fifteen minutes. Positive electrode covered with potter's clay in place of linen cloths; maximum intensity of current 110 milliampères. No pain complained of during or after passage of electricity. Temperature on evening of November 28th 100.4°. Girth round umbilicus 33 inches; three inches below umbilicus 33 inches. After this, the third and final application of electricity, the patient seemed fairly well. The blistering of the abdomen caused by the positive pole at the second application gave the patient some discomfort. Hot water antiseptic vaginal douches were given twice daily and benefited the patient. The vaginal discharge which had continued since the cessation of the menses on November 12th was present, but was scanty.

November 30th: "Notes of the case say the patient felt very well until 5.30 a.m. when she awoke with a distinct rigor,

feeling very cold. Teeth chattered; vomited; temperature 104.2.°" Antifebrin, gr. xx. was administered immediately and the temperature gradually fell. At 7 a.m., November 30th, a second dose of 15 grains of antifebrin reduced the temperature to 101.2°. Pulse 130 per minute; tongue covered with thick white fur; bowels confined. Over the anterior surface of the tumour there was considerable pain, especially on pressure. Abdomen slightly distended. By vaginal examination no alteration in the condition of the uterus or vaginal aspect of the tumour could be detected. There was no pain or pressure to be detected anywhere. The coloured vaginal discharge remained the same. Not in the slightest degree offensive. An attack of peritonitis limited to the anterior surface of the tumour was diagnosed and a mixture containing quin. sulph. gr. ij., acid. sulph, dil. ♏ x., syr. aurant, ℥ss, aquam ad. ʒi three times a day was ordered, together with linseed poultices to the abdomen.

From December 1st to 23rd the condition of the patient was very serious. The temperature ranged between 100° and 104.2°, rising rapidly towards evening and falling rapidly towards morning after a copious sweat. The diaphoresis and fall of temperature were generally the result of five to seven grains of antifebrin which was administered when the temperature rose above 102°. On December 2nd and 3rd salicylate of soda was tried in doses of gr. xx. in place of antifebrin, but did not answer so well. It produced greater prostration of the patient, without reducing the temperature. On December 9th "some large clots passed after douche this morning. General condition much the same; temperature 100.2°, but rose after antifebrin gr. v. to 101.2.° Pulse 100, weak; respiration 30 per minute; tongue furred but cleaner."

The pain over the tumour varied from day to day, having a tendency to subside. But about this time symptoms of septicæmia set in and continued until December 27th, when the temperature fell to normal.

On December 20th one of the right axillary glands was painful and swollen to the size of a chestnut. Extract of

belladonna and glycerine in equal parts were applied. The quinine mixture was continued.

December 22nd: Tumour slightly less in size; is quite free from pain. Axillary gland very tender. Tongue clean; appetite good. Temperature at night 101.4°.

From December 27th to January 2nd, 1888, the condition of the patient improved immensely. The localised peritonitis had disappeared; symptoms of septicæmia were absent; the axillary swelling had decreased slightly in size, was softer and not so painful; all vaginal discharge had ceased; the tumour, though still present, was evidently diminishing in size; temperature 98.2°; pulse regular, stronger than formerly; appetite very good; patient in very high spirits and anxious to get up.

January 3rd, 1888: The temperature rose this evening to 102.2°. "No reason can be assigned except that bowels have not acted." Patient says she feels very well. From this date to February 10th the temperature and condition of the patient varied greatly. Symptoms of septic infection again set in with rigors and sweats. Notes of the case say: "No cause for pyrexia discoverable. Quite free from pain. No swelling of joints. Swelling of axillary gland quite gone." On vaginal examination nothing could be discovered beyond the fact that the tumour in the pelvis was less in size. Uterus freely moveable, no thickening anywhere; no discharge; no pain in pelvis. Lungs healthy; heart sounds normal; urine acid. Specific gravity 10.16. No albumen. The temperature reached its highest on January 7th, when it was 103.2°. The patient was extremely weak, with a dusky hue of face and lips; fingers cold and cyanosed. No pain anywhere. A mixture containing quinine and dilute sulphuric acid was ordered.

On January 13th there was some hardness and cord-like feeling along the veins of the right arm on the inner side.

January 14th: "Had a good deal of pain in the night along inflamed veins, which are more swollen this morning, tender, and skin rather red. Temperature 100.4° at 8 a.m.; 102° at midday; 101.6° at 8 p.m. Tumour cannot be felt any-

where in abdomen." The phlebitis slowly but gradually extended down the right arm and finally reached the right hand on January 22nd, when the swelling of arm and forearm had subsided considerably. Lead and opium lotion eased all pain.

January 30th: Phlebitis in arm and forearm has disappeared; right hand slightly swollen.

February 2nd: Much better. Temperature normal in morning; afternoon 99.2°.

February 3rd: "Sitting up. Says she is much better. Phlebitis disappeared from arm and hand. Last menstrual period December 31st, lasted five days." From this date to her discharge from hospital the patient gradually improved, though her convalescence was somewhat retarded by hæmorrhoids, which she complained of as causing her much pain.

March 2nd: By abdomen nothing could be felt of fibroid tumour. Vaginal examination: Cervix has one or two nodules from old laceration, and is slightly granular. Uterus freely moveable, lying anteriorly, seems normal in size by bimanual examination. Sound passed in 2¼ inches; no pain. On left side the uterus feels slightly larger than right, but no trace of tumour can be felt. No signs of former peritonitis.

March 5th: Dr. Edis, who had examined the patient at an earlier stage: "Examined patient to-day and considers tumour entirely gone, though uterus is still subinvoluted as a whole." The patient returned home on March 8th, 1888.

On April 25th the patient writes: "I believe the uterus to be in a perfectly satisfactory condition, no discharge of any kind being present, not even in the douche." She is, however, now suffering from a fissure of the arms and hæmorrhoids.

June 13th: The patient promised to come to town and see me to-day, but wrote saying she was unable to come up as she was so busy packing and removing their household effects to another town. She says: "Since writing to you on April 25th I have been improving steadily. I am looking so well no one would think I had had anything wrong, and I

am sure you would be gratified with the result of the trouble you took with me." The menstrual periods which have been absent since Jan. 2nd, returned on June 11th "with freedom from pain and no symptoms of flooding." She has been free from piles for over a month, and considers herself a different being to what she was when she first entered the hospital. I am sorry the results of a vaginal examination cannot be given you.

Remarks.—The narration of this case has occupied considerable time, but I would venture before closing to bring several points to your notice.

In the first place the tumour was a soft slowly-growing fibroid, and for that reason I believe not a favourable one for electricity. From the small experience I have had in the treatment of these tumours, and from what I have gathered from the literature of the subject, I believe the harder the tumour and the more rapidly growing it is, the more likely is the growth of the tumour to be arrested.

I would also draw attention to the rapid rise of temperature after each application of the electric current, and its equally rapid subsidence. This rise I attribute to some peculiar idiosyncrasy on the part of the patient rather than to the ingress of septic material into the system, for these reasons; the rise of temperature took place immediately after the application of electricity, too soon for the absorption of poisonous matter into the system. Thus after the application on November 21st, at 5 p.m., an antiseptic vaginal douche was administered and by 6 p.m. the temperature had risen. The same may be said of the other two elevations of temperature on November 24th and 28th. Had septic material been absorbed from without I believe the localised peritonitis would have become general; though peritonitis set in on November 30th, no symptoms of septicæmia showed themselves until about December 9th, 1888; and lastly, had septic absorption taken place by the uterus, some tenderness in the pelvic region would in all probability have been present and the uterine discharge would have become offensive.

Next I would note the entire disappearance of a large soft fibroid tumour and the entire cessation of the menorrhagia and metrorrhagia which, from time to time in years past, brought the patient to the brink of her grave.

Three applications of the continuous current were made, the negative electrode being intra-uterine, and the greatest intensity of current being 120 milliampères. What was the process by which this diminution and final disappearance of the tumour was brought about? The explanation I would offer is that the galvanic current caused a sloughing of the tumour within its capsule; that when the broken down material was absorbed into the general circulation, septic symptoms set in and continued until the entire tumour had disappeared. This is only supposition, but I believe it to be supported by the septicæmia which was undoubtedly present; by the adenitis and phlebitis which subsequently occurred, and by the temperature, which indicated suppuration, especially until the end of December. For a few days, then, the process, whatever it may have been, remained quiescent, as indicated by the return of the temperature to normal and by the improvement in the patient's condition. It was however soon lighted up again, and on January 2nd, 1888, the temperature was decidedly febrile.

With regard to the temperature, it may be of interest to note that from January 9th to 22nd, the temperature was at its highest in the evening; from January 23rd to February 10th the elevation of temperature was highest almost invariably about midday, and declined again towards evening.

I must not omit to mention that after each application of electricity the tumour became markedly harder than before, remained firm and contracted for some hours, and then slowly relaxed. This hardening has frequently been noticed, and is due to the contraction of the non-striped muscular fibres of the uterus and tumour. The process by which these tumours diminish in size is at present undecided.

By some it is argued that the passage of the electric current through the tumour causes a coagulation of the

albuminous material contained in its tissues, and a splitting up of compound bodies into simpler ones, and that their chemical absorption takes place. I am not in a position to deny that by such changes the tumour does diminish in size; but against this theory I would argue that if chemical absorption of the tumour does take place, owing to the passage of the electric current, then this process should continue so long as the electricity is applied, and the tumour should in time entirely disappear. Such, however, is not what happens. In all the reported cases, there has merely been a diminution in the size of the tumour, and not a complete disappearance, except in the case I have brought before you, and in one reported in the *British Medical Journal*, in which the tumour was enucleated, and was expelled per vaginam. Indeed, I believe it is admitted on every side that as a general rule the tumour diminishes in size, but does not completely disappear. Another theory is that the electric current causes an interstitial inflammation, which proceeds along the strands of connective tissue present in every fibroid. These connective tissue bands in time cicatrise and cause a fatty degeneration of the muscular fibres surrounded by them. I have examined tumours which have been treated in the first instance by electricity, and have failed to find any such changes. Where galvano-puncture has been practised changes will be found immediately around the puncture, but similar changes would, I imagine, be found if the thermo-cautery or a red hot iron had been inserted into the tumour. In any case the changes are extremely local and do not extend into the substance of the tumour.

Whatever the process may be by which these tumours diminish in size or disappear I am unable to say, and I have no desire to theorize. In this new field of electro-therapeutics there are many earnest workers who will in time further elaborate and perfect a method of treatment, which is at present in need of careful experiment and accurate observation. I cannot conclude without thanking Mr. Peck, our resident Medical Officer, for the copious and accurate notes

he made of every change in the condition of the patient. To his untiring zeal and watchfulness the patient, in a great measure, owes her life.

Dr. EDIS said that on admission there was an unquestionable fibroid as big as a child's head, extending nearly to the umbilicus, yet when the patient left, all she had was a somewhat bulky uterus, not one fifth the size of the original tumour. She underwent extreme danger of her life during her stay in the hospital, but the fact remained that in consequence of the mischief set up by electricity, the tumour disappeared. They had to consider whether it was worth while subjecting a patient to such risk.

Dr. MANSELL-MOULLIN observed that it was simply astounding that, considering so many had taken up the treatment, Dr. Rutherfoord's case was the first case the details of which had been brought before the Society, in which a tumour had really disappeared as a result of the treatment. Only three applications of the electric current were made, and it was to be noted that when once the process of absorption or disintegration was set going, the tumour had continued to diminish until it disappeared altogether. If any further proof were wanted that electrolysis had nothing to do with it, that case made it very clear. Dr. Rutherfoord had suggested that sloughing of the tumour took place, and he thought that was the most feasible explanation. If that was really the case, instead of establishing the treatment on a firm and better basis, it went a long way to show how dangerous it was.

It appeared to be quite impossible to control the result of the treatment. In some cases the electric current had no effect whatever on the tumour. In other cases it caused sloughing. This was followed sometimes by the absorption of the tumour and sometimes not. Under either circumstance the patient was subjected to all the danger of peritonitis, septicæmia, thrombosis, embolism, &c., &c., from which Dr. Rutherfoord's patient appeared only to have escaped by the skin of her teeth. It was difficult to understand why absorption took place in some instances and not in others. It might

be that absorption took place when there was a capsule, as suggested by Dr. Rutherfoord, for it certainly did not when there was no capsule. In a case in which he had assisted at an operation some years ago, a large tumour, distending the abdomen, had undergone necrosis spontaneously. The tumour was exceedingly friable and tore away in handfuls like wet brown paper, but there was no evidence that appreciable absorption had taken place. Supra-vaginal hysterectomy was not understood in those days as well as it is now, and much difficulty was experienced with the pedicle. The patient, who was in the last stage of exhaustion from fever, died shortly after the operation.

He could not avoid coming to the conclusion that in the impossibility of diagnosing the particular condition of any fibroid, and at the same time being quite in the dark both as to the primary results which the electric current might bring about in any individual case, and also its subsequent course, the treatment by electricity as applied to fibroids was simply empirical, and that it was highly dangerous was amply proved by Dr. Rutherfoord's case.

Dr. BARNES said that electrolysis was on its trial. At present it was the rage, and he might say, as the eminent French surgeon once said in speaking of a certain method of treatment, "Employez vite ce remède pendant qu'il guérit." It certainly called for an amount of care and caution. He said that electricity was now credited with curing retroversion, prolapse and all other diseases, so that it was being used for just everything. That, however, was a form of insanity which would find its own level. After a sufficient time for enthusiasm to settle down, its proper sphere of usefulness, no doubt, would be found. Many years ago he used it to stop hæmorrhage of the uterus after abortion and labour, and to empty the uterus. In that way one had distinct evidence of the power of the Faradaic current to cause contraction of the muscular tissue. When applying it on that principle it was certain that it did cause some contraction of the muscular fibre of the uterus in which the fibromata were generated. In

that way one might interfere with the nutrition of the tumours and thus bring about their quiet disappearance without necrosis or sloughing, and that was the safest and best way of employing it. He alluded to Dr. Greenhalgh's treatment with the actual cautery, a method which was good in some cases and very bad in others. Baker Brown and McClintock showed that in some cases by incising freely the cervix, the nutrition of the parts was so affected that the tumour disappeared. He had had a good deal of evidence of this, and the proceeding was safe. He said that electricity in one form or another had always been used. He had seen excellent cases in Paris forty years ago.

Dr. BANTOCK said that that was the first time they had had a definite statement of a definite case. He observed that Dr. Rutherfoord had not a word to say in favour of the treatment, and could that be wondered at. He himself admitted certain powers though he opposed this method of treatment, on the ground first of all that the results obtained by it had been grossly exaggerated. As to the diminution in the size of the tumour, Dr. Rutherfoord was not prepared with an explanation. He had a feasible explanation to offer, viz.: that it was due to the powerful contraction of the fibres of the uterus of which Dr. Barnes had spoken. He was very clear in his own mind as to the true cause of this diminution. A diminution in size of the tumour meant that a portion of it must have been withdrawn. If they took the tumour in their hand, he would defy them to diminish it in the slightest, but of course the uterus admitted of contraction. Another point which he had indicated on a recent occasion, was that having started the degenerative process, it might either assume the form of absorption or the more dangerous form of sloughing, and that was evidently what had taken place there. No other explanation could be offered of the nature and length of the illness. Altogether he thought the case was a valuable one, as proving the value of this method of treatment and as proving its dangers. Dr. Playfair said the other evening that he only employed electricity by piercing the tumour on one

occasion and did not propose to repeat it—a resolution which redounded to Dr. Playfair's wisdom.

Dr. RUTHERFOORD, in reply, observed that in alluding to professional brethren, they should be assumed to act in the same spirit as the speaker would act. With regard to the degenerative process which, once started, will go on, he thought this was one reason why the treatment was so useful. Many tumours wanted a stimulus. Ergot would sometimes do it, but in others electricity was necessary. Then with regard to the diminution of the tumour mass induced by powerful contraction of the muscular fibres of the uterus, alluded to by Dr. Bantock, he was surprised that that gentleman should have mentioned it seeing that he (Dr. Rutherfoord) had spoken in his paper of the hardness and smallness of a fibroid after the electrical applications, due to contraction of the muscular tissue. He agreed that the treatment had been greatly exaggerated. He differed from Dr. Bantock when he said that he (Dr. Rutherfoord) had nothing to say in its favour. As a matter of fact, in fibroids where there was flooding or dysmenorrhœa, he thought it was of very great advantage. In this case very excellent results had been obtained. In his out-patient department he treated them in the same way, and with benefit to the patients. He entirely agreed with Dr. Robert Barnes' remarks, and thought cases should be carefully watched and carefully reported. He agreed with Dr. Mansell-Moullin in thinking that electrolysis was not the sole cause of the disappearance of the tumour, and that if it existed its main action was only at the poles.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, OCTOBER 10, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 25 Fellows, 3 Visitors.

The following were elected Fellows of the Society: Dr. C. A. Baker, Portland, U.S.A.; Dr. R. Leslie, London; Dr. A. Auvard, Paris.

The following were proposed for election:—Dr. Taylor Parkinson, Crystal Brook, South Australia; Dr. Charles W. Wittinshaw, London.

Dr. HEYWOOD SMITH shewed a fir-cone, measuring some five inches in length and about the same in circumference, which had been removed by one of his nurses from the vagina of a girl, æt. twenty-six, who had introduced it for purposes of masturbation. It had been introduced the butt-end foremost, and was therefore impossible to move except with the aid of a small pair of forceps and careful manipulation.

Several members appeared rather sceptical, especially as the cone had not been removed by Dr. Smith in person. Dr. Smith, however, affirmed that the nurse's statement was entitled to confidence, as she was also a trained midwife.

Dr. BANTOCK, in showing specimens from a case of ruptured tubal pregnancy, said: On the morning of the 21st June, while making my usual visit at the hospital, Mr. Sadler Curgenven, of Craven Hill Gardens, called upon me with reference to a very urgent case which he believed to be one of extra-uterine fœtation. I at once proceeded with him to the home of the patient—the wife of a coachman—and found her in bed, lying on her left side, looking

very pale and exhausted, and with a very feeble pulse of about 150. On attempting to turn on her back, for the purpose of a more thorough examination, her first effort caused her so much pain that she started into the sitting posture with a scream, referring the pain to the shoulders chiefly, and in a minor degree to the lower abdomen. Giving her a little time she got into proper position, and I then found the following conditions:—The abdomen was slightly tympanitic, resonant everywhere except in a limited region just above and to the left of the pubes, where there was a feeling of moderate resistance. Owing to the great tenderness of the abdomen, palpation was difficult. The cervix was rather long, os sufficiently open to admit the tip of the index finger, the body of the uterus evidently inclined backwards towards the promontory of the sacrum. Above and in front there was an ill-defined tumour of small size with a feeling of resistance in its immediate neighbourhood, so that it was difficult, even on bimanual palpation, to define the exact limits of the tumour. There was, moreover, a slight sanguineous vaginal discharge. I then obtained the following history. Age 26, one child five years ago, menstruation regular, with moderate flow, characterised by pain for several days before and during the first day; last period from March 10th to 13th of this year. About a month after this, *i.e.*, about the middle of April, had some morning sickness, but not very marked. For the last six weeks had complained "on and off" of sharp pain in the left groin and hypogastrium, the first onset being marked by a slight sanguineous discharge. On the 18th (June) she was seized with a sharper pain than usual, and for a short time felt rather faint. She then first sent for Mr. Curgenven. About ten p.m. of the 20th she was again seized with very acute pain and almost immediately fainted. Mr. Curgenven was at once sent for, and arrived about eleven o'clock. He found her very faint and exsanguined, with some retching. She continued to be sick at intervals during the night, and was given small pieces of ice to suck. At his visit in the morning he found her still in much the same state, and

believing he had to do with a case of extra-uterine pregnancy he lost no time in applying to me.

From the history and actual condition of the patient, I had no hesitation in coming to the conclusion that Mr. Curgenven was right in his diagnosis, and that rupture had taken place with much effusion. Seeing that the accommodation for an operation was most inadequate and unsuitable, in an atmosphere reeking with the emanations from the stable below, and desiring to put the patient under more favourable circumstances for recovery, I at once set about making preparations for her immediate admission into the hospital, and recommended that, in the meantime, small quantities of hot water should be substituted for the ice. I was also influenced by the idea that it was desirable the patient should have an opportunity of recovering somewhat from the shock, and with this view I did not regard the delay as adding to the danger. Partly through the difficulty of procuring a suitable conveyance, and partly through the desire of the patient to see her mother first, it was after eight p.m. before she was received into the hospital, and it was about eleven o'clock before I saw her. The sickness still continued, though to a less degree, but the pulse was of better quality in volume though not in frequency (150), and she had less pain. The temperature at nine o'clock was 100. At two a.m., June 22nd, it was 99.6; at seven o'clock, 99.2, and at nine the pulse was 140, with decidedly more volume than at my first visit. Mr. Stormont Murray administering chloroform, Mr. Doran assisting, and in the presence of Mr. Curgenven, Dr. Vulliet, of Geneva, and several of my colleagues, I opened the abdomen with an incision of about two and a-half inches. On dividing the peritoneum, the diagnosis was at once confirmed by the escape of a large quantity of blood, partly fluid and of a dark colour, partly coagulated. As rapidly as possible I broke through some adhesions of intestine of recent formation, seized and extracted what I thought was, and what proved to be, the sac, and in doing so it was evident to me that its contents were for the most part squeezed out. While

endeavouring to get to the base of the sac, and in the act of clearing away masses of blood clot, I brought up the placenta with the fœtus attached. It had been lying in front of the uterus and over the bladder. As soon as I had separated the sac from the back of the broad ligament and its connections with the large intestine and sigmoid flexure—the work of only a few seconds—I forcibly compressed the pedicle, to prevent any further bleeding, and then secured it with my usual figure of 8 knot and final circular ligature. In bailing out the blood with the hand I came upon a solid mass behind the uterus, and to the right side of Douglas's pouch. On lifting it out it was found to be a large firm blood clot, as large as my fist, partly enveloped in the omentum. The pelvis was now thoroughly washed out with a full stream of warm water, and when it was clear I examined the appendages on the right side. Finding they were matted together by inflammatory action and otherwise extensively adherent, I thought it advisable to remove them also. The pelvis was again washed out with a small quantity of water, a drainage tube was inserted and the wound closed. When the patient was placed in bed, the pulse was fuller than before the operation and counted only 100. This was evidently the effect of the chloroform, for as its effects passed off the pulse gradually rose in frequency till it reached 130 seven or eight hours after. About two hours after operation three ounces of beef tea were administered by the rectum and repeated every three hours. Although there was no chloroform sickness, yet as the patient had been retching through the night it was deemed advisable to keep the stomach clear, and therefore nothing was given by the mouth till eighteen hours had elapsed. The temperature at ten and twelve p.m. stood at 100.4, only .4 above that of the night before, and at the end of twenty-four hours it was only 99.2. At the same time the pulse was only 102. In the course of the night of the 23rd—24th, the patient had some vaginal discharge with distinct uterine pains. That these marked the expulsion of the decidua—forming a complete cast of the uterine cavity—is evident, for when the

vagina was washed out at half-past six a.m., 24th, the cast came away. In the afternoon of this day the beef tea injection were discontinued. The patient was then taking milk and barley water and gruel. At the end of four days and seven hours the drainage tube was removed. At that time the pulse was only 94 and the temperature was normal.

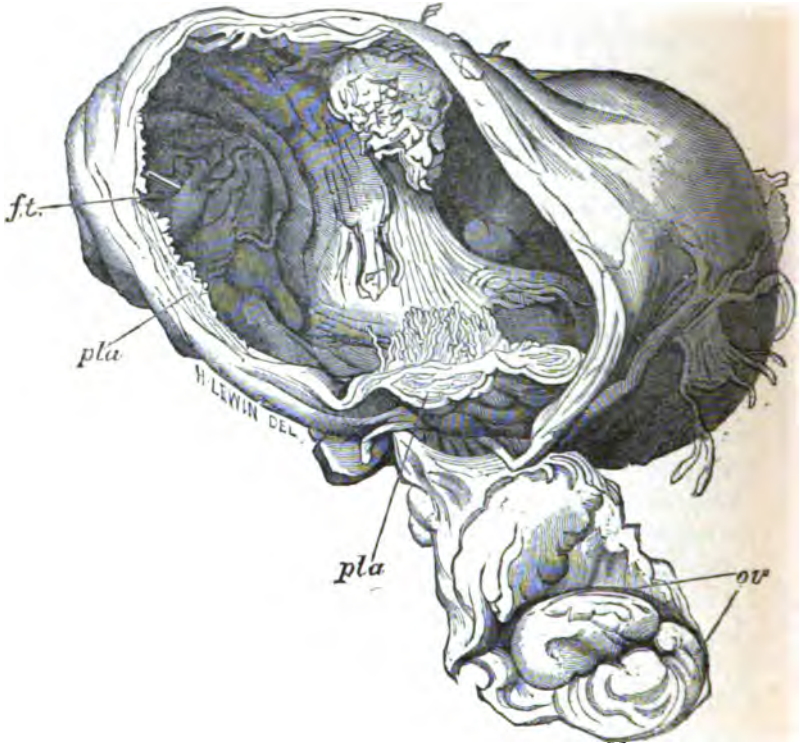


Fig. 1, Front view.

From this time the progress was uninterrupted; the patient was out of bed on the sixteenth day, and she went home on the twenty-third day, looking remarkably well.

It will give some idea of the condition of the patient before the operation, when I say that she has no recollection

of entering the hospital, or of anything that occurred till the day after the operation.

The specimen was sent to the museum of the Royal College of Surgeons, where the cyst has been mounted, as seen in the accompanying illustrations. The following report was written by Mr. Doran, from examination of the specimen in its fresh state. "The fœtal sac is thin walled and

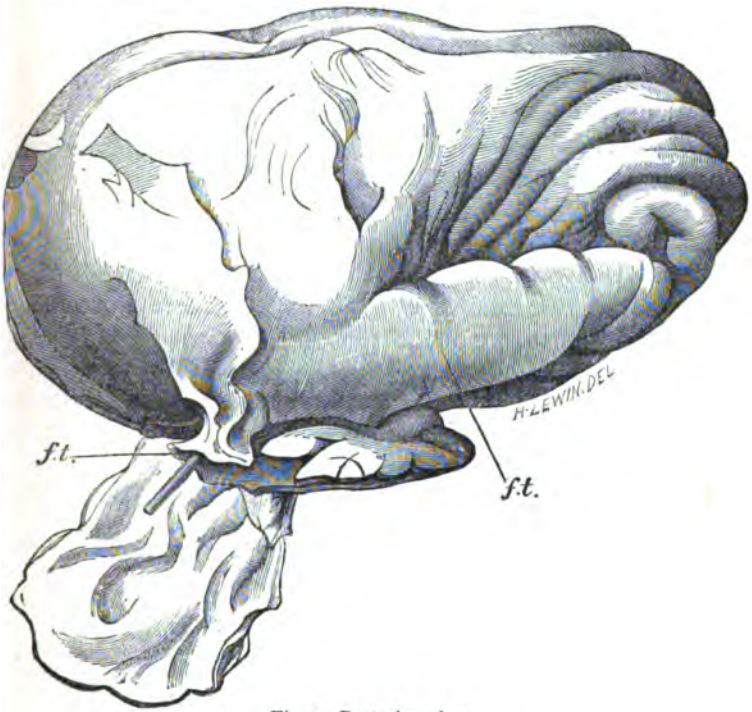


Fig. 2, Posterior view.

about three inches in diameter: it consists of the outer part of the Fallopian tube. The remainder of the tube (fig. 2, f.t.) lies on the posterior surface of the sac, into which it opens by a crescentic aperture nearly half an inch in diameter. The inner wall of the sac is for the most part smooth, except where shreds of placental tissue"—(notably one piece at the tip of

the sac shown in the drawing) "are attached to it. The ovary is small, hardly an inch long in diameter and perfectly separate from the sac, and remainder of the tube.

"The opposite appendages are diseased, the tube being completely obstructed, very tortuous and bound to the ovary by perimetritic adhesions. The ovary is double the size of its fellow and measures an inch and a half in its long diameter; its surface is puckered.

"The fœtus, a male, measures three and a quarter inches from vertex to coccyx: it is well formed. The cord is nearly seven inches in length. The placenta, broken into three pieces during the operation, shows no abnormality."

Fig. 2 is a posterior view, shewing the tube (f.t.) much enlarged, as it runs along the back of the cyst.

A more complete history of the case, subsequently obtained, points to the occurrence of acute salpingitis after the birth of her child five years before. The peculiarity of the dysmenorrhæa, viz., its commencing several days before the flow—is now pretty generally understood to point to tubal disease. When I found the right appendages so extensively diseased, agglutinated to one another by the inflammatory process, and with a small sac where the infundibulum was applied to the ovary, I had no hesitation in removing them with a view to the prevention of a second occurrence of the same accident. In reference to this I would call attention to a paper published by Dr. Vulliet of Geneva, in the *Revue Medicale de la Suisse Romande*, No. 3, 15th March, 1884, in which he points out that, in the case reported, the fœtus was arrested in the outer end of the tube, in a cyst formed by the adhesion of the infundibulum of the tube to the ovary. Two conditions are necessary for tubal impregnation in this state of things. 1st, that the tube must be permeable from the uterus into the tubo-ovarian cyst; and 2nd, that the portion of the ovary abutting on the infundibulum must furnish the ovum. Whatever the necessary condition be, whether the existence of a tubo-ovarian cyst with the relations just described according to Dr. Vulliet, or a diseased state of the lining membrane of the tube, according to Mr. Lawson Tait, I felt that I was justified in

removing the right appendages also, to say nothing of the sources of possible and probable trouble in the future, to which the patient would have been exposed had they been left.

The case carries this lesson, that it behoves general practitioners, who are most likely to be first consulted in such cases, to make themselves acquainted with the symptoms of extra-uterine gestation, in order that, on the occurrence of serious symptoms, they may not overlook such a dangerous complication. In this respect too much credit cannot be given to Mr. Sadler Curgenven for his diagnosis in this instance.

THE PRESIDENT (Dr. Edis) said it was important to remember that these cases occurred much more frequently than was generally supposed. The difficulty lay in making the diagnosis. In that case the practitioner in attendance, by calling in Dr. Bantock, had saved the woman's life just as certainly as if he had cut the rope by which she was hanging. One of the objects of the Society was to disseminate a knowledge of these conditions.

Dr. CHALMERS supported the President in his statement that these cases were more common than is supposed, and are often overlooked. He recalled that one of the first cases he met with was one where the doctor, finding a swelling in Douglas's pouch, punctured it with a trocar, and the patient died. He made the post-mortem examination, and found that it was a case of extra-uterine pregnancy, and the fact had very much impressed him.

Mr. LAWSON TAIT approved the removal of the ovary and tube on the opposite side, though not on the same ground as Dr. Bantock. He did not consider that there was much danger of pregnancy which could only occur if the graafian follicle happened to rupture on just the very spot covered by the fimbriæ. The writer of the article from Geneva must have had only a book-knowledge of the subject, for the chance of impregnation was in reality very small. He said there could be no doubt that a desquamative condition of the lining membrane deprived the tube of its cilia and consequently

when the ovum came along, it was liable to get arrested and impregnated in the tube. He agreed that the value of the specimen would be enhanced by enabling them to see what was the condition of the inside of the tube. Such cases were constantly occurring. He himself had been enabled to diagnose eight out of ten cases and in the remainder it was best not to wait for a diagnosis but to act at once. The removal of these cases to a hospital was certainly an important point, but he would not allow even that to stand in the way.

Dr. DOLAN, of Halifax, said that looking back into the past he was convinced that such cases were very common. He was indebted to the fact of his being a member of the Society that he was enabled to arrive at a diagnosis in two cases. The last case, which had been operated on by Mr. Tait, although done under very unfavourable circumstances, had proved very successful. He had heard of several cases in the neighbourhood with all the symptoms of extra-uterine pregnancy where the patients died. He was pleased to see that general practitioners were beginning to diagnose these cases, and he believed that by-and-by the general practitioners hearing these cases discussed, would be more ready to diagnose them and call in surgical assistance. Of course, in the country, it was often difficult to obtain skilled assistance, but it was generally possible to obtain the aid of the local hospital surgeon with the result of diminishing the mortality from this cause.

Mr. TAIT, in reply to Dr. Parsons, said that in all his forty-five cases he had removed what remained of the sac. If left it was very likely to die and set up suppuration. He removed everything that was likely to die. There was one little secret worth bearing in mind in performing this operation. He thought that the operation might be performed by anyone if they would bear in mind, when they opened the abdomen and found blood, and if their suspicions were confirmed, that they should go straight for the broad ligament and tie it. Then they could deal with the sac and other things at their leisure, as hæmorrhage was completely arrested. It was plain sailing enough.

Dr. BANTOCK, in reply, said that this was the first case of extra-uterine pregnancy on which he had operated, for curiously enough he had never before met with a case. In any future case he certainly would remove the sac if it were removable at all, just as he would remove the sac of an ovarian or par-ovarian cyst. It would be a great mistake to leave such a thing behind. In the condition of the other ovary, impregnation was certainly possible if not probable. He agreed, however, that Mr. Tait's explanation was far more likely to be the correct one, viz.:—that there was an unhealthy condition of the mucous membrane of the tube and that the ovum stuck there.

Dr. MANSELL-MOULLIN exhibited a small dermoid tumour, the size of an egg, removed from a young woman, aged twenty-seven. The patient had had one child seven years previously. She had suffered from frequent attacks of pain in the pelvis and intense bearing-down pain on defæcation. Removal was very difficult owing to adhesions. The omentum was adherent in front to the abdominal parietes, and the tumour was embedded in a mass of adhesions in the pelvis, from which it had to be enucleated. In spite of the protracted operation the patient did remarkably well. He said the specimen was possibly more interesting than the case. He alluded to Mr. Bland Sutton's theory that dermoid cysts of the ovary were a high form of development of the ordinary multilocular glandular tumour. This one was as low in the scale as it was possible. Indeed, were it not for a hair or two, one would not have taken it for a dermoid cyst at all.

Dr. EDIS exhibited a fibroid tumour removed post mortem. The interest of the case consisted in the difficulty surrounding the diagnosis. The tumour itself was soft and resilient to the touch, about the size of an ordinary kidney, wedged down in the posterior *cul-de-sac*, behind the uterus, with its long diameter perpendicular.

The patient, aged 39, when first seen in May, complained of extreme weakness and gave a history resembling that generally detailed in cases of hæmatocele.

The catamenia had for some years been fairly normal, but in January ceased entirely for over two months, when flooding commenced and was with difficulty checked, her general health being much impaired by the attack. Since this date the sanguineous discharge had been fairly regular as to time but more profuse than usual.

As the absence of the catamenia for over two months pointed to a possibility of extra-uterine gestation with rupture of the tube and the occurrence of hæmatocele, the patient was advised to go into hospital, but refused to do so. Her general health still continuing unsatisfactory and the periods profuse, she consented to enter the hospital and was admitted on September 8th, 1888, with a view to operative interference. On examination the uterus was felt to be bulky, pushed up behind pubis by a firm globular mass filling up the concavity of the sacrum, and extending up above the pelvic brim on the right side. The mass seemed to be fixed in the pelvis. The cervix was patulous, the uterine sound passing in three and a-half inches upwards and forwards. It was decided to make an exploratory incision and determine what could be done.

Before this could be arranged the patient got a chill—became very feverish—the temperature running up to 104° F. and the pulse to 156. Symptoms of acute general peritonitis supervened, and spite of large doses of quinine, antipyrine and other appropriate treatment, she succumbed within the week, the temperature just preceding, and an hour after, death being 108.4° F.

The *post-mortem* examination showed that the abdominal cavity contained a quantity of sero-purulent fluid mixed with flakes of lymph gluing the intestines together.

The uterus was enlarged, the mucous membrane being thickened, soft and injected and bathed with a reddish strumous material. On the posterior wall and close to the opening of the right Fallopian tube a small soft reddish pedunculated polypus, the size of a cherry stone, was detected.

Both Fallopian tubes were thickened and injected and contained grumous fluid. Both ovaries were found to be

enlarged, their surfaces nodular. Each contained two or three small abscesses, those in the right being deep seated, those in the left more superficial.

The tumour in Douglas's pouch was contained in a capsule from which it could be easily separated. The substance of the tumour resembled soft fibrous material, somewhat lobular in character and was of a white colour. There were several cysts formed in the substance of the growth without any lining membrane whatever, and contained clear serous fluid. The largest cyst was the size of a walnut.

The tumour appeared to spring from the interior of the posterior wall of the fundus uteri, and not to have infiltrated the tissues.

A Case bearing on vicarious Menstruation. By J. INGLIS PARSONS, M.D., Assistant Physician to the Chelsea Hospital for Women.

THESE notes are of a patient who came to the out-patient department of the Chelsea Hospital for Women two years ago in September, 1886, complaining of excessive epistaxis. I have kept her under observation ever since and also inquired carefully into her previous history since 1883.

Sept. 22nd, 1886.—A.B., aged 19, complains of excessive epistaxis.

Family History.—Father alive and strong. Mother also alive, but rather delicate. No particular diathesis in either. Six brothers and sisters, one died ("consumption of bowels?") and one sister had amenorrhœa for two years, but is now quite well; the other sisters have not reached puberty.

Previous History.—The epistaxis first commenced three years ago, at the age of sixteen, and occurred periodically for two or three days every month for a few months and then, after a profuse loss, ceased for several months. She is unable to remember the exact dates, but says it came on five to eight times in the year; this continued from 1883 to the winter of 1885 when it ceased, and did not occur again until September 1886, when the loss, continuing for a week, was so profuse that she came to the Hospital.

In order to verify these statements, I wrote to the two ladies in whose service she had been. Her first mistress said in her letter to me, that from April 1883 to 1884—"she had bleeding from the nose during the summer, and it was very frequent up to the time she left. It would occur three or four times a day for several days, continue for several days, and then not return for some weeks." Her second mistress wrote "that from March, 1885, to February, 1886, she had bleeding from the nose occasionally but is unable to remember how often." *Menstruation* has never occurred.

Examination.—She is a fine-looking, well-developed, strong girl, with a good colour. The breasts are if anything more developed than is usual at her age. The hymen appeared intact. The vulva and vagina are properly developed. Uterus in normal position. Cervix slightly conical, rather smaller than usual. Sound passes barely 2½ inches. The ovaries could not be felt; without an anæsthetic it is impossible, on account of the firmness of the walls of the abdomen, to say whether they are present or not.

After History.—After September, 1886, she went into service in Kensington for nearly six months, and then became a servant at the hospital. The epistaxis continued as before, and occurred irregularly. After a severe loss, several months would follow without any hæmorrhage taking place. This was observed by the out-patient nurse, who is her friend.

Treatment.—Every available means was tried: permanganate of potash, strychnia, hot baths, purgatives, iron, leeches, to cervix and, finally, galvanism with the negative pole in the uterus and a current 150 milliampères applied six times with an interval of a week between each application. Nothing had any effect. She is now going to be married, and I shall follow the case up to see whether pregnancy takes place.

Remarks.—Although there has not been any regular periodicity in the onset of epistaxis, it is, I think, fair to consider this as a case of vicarious menstruation. There has never been any constitutional disturbance, such as pains in the breasts, headache, fulness in the pelvis, &c., occurring periodi-

cally as one is accustomed to find with menstruation. But then these same constitutional symptoms are absent in all cases of amenorrhœa, and also in cases of metrorrhagia. In both classes of cases, the patients, as a rule, are quite unable to give me the least idea of the date when menstruation should occur.

Dr. BANTOCK affirmed himself a believer in vicarious menstruation. He recalled a case which had come to his notice some years ago in a woman from whom he had removed a fibroid tumour of the uterus by enucleation. She menstruated for a time and then it ceased and for twenty years subsequently she had no proper menstruation but had periodical discharges of blood from the mouth and nose. He thought that was a very clear case of vicarious menstruation. He mentioned that he had often seen hæmorrhages from the stomach at the end of the first month of pregnancy, and this he suggested was a substitute for the menstrual period which many women had soon after becoming pregnant. The habit being so strong nature had provided an exit for the discharge of blood by some other way than the usual one.

Dr. HEYWOOD SMITH suggested that "alternative" would be a better term than "vicarious" menstruation. Referring to the want of regularity in the discharge he observed that it often took girls two or three years to settle down to be regular. He thought from the small size of the uterus in Dr. Parsons' case that the patient would probably be barren. He asked whether any examination for the ovaries had been made per rectum.

Mr. LAWSON TAIT said that they did not deny that there was such a thing as vicarious menstruation, but what they did deny was the propriety of examiners at the University of London or anywhere else asking the commonest cause of epistaxis and receiving the answer of vicarious menstruation with approval. He added that Dr. Wilks and himself had, after diligent search, been unable to establish such a case. The first really scientific story of the kind he had heard was the case related by Dr. Fenwick.

Dr. INGLIS PARSONS, in reply, said that he did not affirm that it was a case of vicarious menstruation, but that it was a case "bearing on" that question. Had it occurred with any semblance of periodicity he would certainly have brought it forward as such without hesitation. He thought these cases might be explained by evolution. In former ages women who were capable of vascular engorgement, when they became pregnant would produce more vigorous offspring than other women. The extra amount of blood formed would go to nourish the fœtus, while the children of such mothers would be stronger than others, and so would be the fittest to survive and most of their children again would inherit the attribute. When pregnancy in a woman of this type was not going on, the vascular engorgement would seek an outlet in the direction of least resistance. This condition would be found in the uterus when its periodical shedding of epithelium took place. If for any reason the condition of the uterus was not favourable, some other more suitable part of the body would form the channel for the exit of the blood, and so-called vicarious menstruation would take place.

Dr. BANTOCK observed that as a general rule a discharge coming from any other part than the uterus was not considered to be menstruation, but he asked what they would call a monthly discharge from the stump of an ovariotomy.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, OCTOBER 24, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 24 Fellows, 3 Visitors.

The following were elected Fellows of the Society:—Dr. Taylor Parkinson, Crystal Brook, South Australia; Dr. Charles W. Withinshaw, London.

The following were proposed for election:—Dr. Milne Brownlee, Canada; Dr. Holford Walker, Canada; Dr. Lincoln McPhatter, Canada; Dr. James F. W. Ross, Canada.

Mr. LAWSON TAIT showed what he said was usually described as a fibro-cystic tumour of the uterus. This condition was said to be common, but as a matter of fact it was very uncommon, in fact a real fibro-cystic tumour, in his experience, was quite unknown. What they did get was a fibroid which had broken down in places and formed cystic cavities. All the tumours of the kind he had met with, to the number of five or six, had been of this nature.

Dr. BANTOCK agreed that the real fibro-cystic tumour of the uterus was very rare; he could only recollect one such case, that is a cyst, the walls of which were, apparently, derived from the tissues of the uterus; the others were simply fibrous tumours undergoing cystiform degeneration.

The PRESIDENT (Dr. Edis) alluded to the tumour which he had shown at their last meetlng, of the so-called fibro-cystic kind. It contained cysts the size of a walnut, but, of course, without any lining membrane.

Dr. BANTOCK expressed the satisfaction which he felt at seeing the pathology of ovarian disease made so simple. He mentioned that Mr. Doran had already called attention to the

fact that cysts arising from the hilum of the ovary were particularly liable to become papillomatous. He understood that the presence of papillomata was held to indicate that the cyst took origin from the hilum, though he, himself, had seen a true parovarian cyst exhibit similar appearances, and that was one of the arguments which he used against tapping par-ovarian cysts, as recommended by Dr. Keith. With regard to the parovarian cyst proper, which called forth his own first effort in that direction, if they would compare the specimen before them with the drawings contained in his paper read before the Obstetrical Society, they would find that it quite confirmed the description he gave, viz., that if they made a section through the middle of a cyst, including the ovary, they would find the ovary on one side and the tube some distance away on the other. A cyst growing between the ovary and the tube would stretch the latter until sometimes it would measure as much as fifteen inches in length.

Mr. LAWSON TAIT said that he had a dim recollection that in Sappey's paper a suggestion of this kind was made. Mr. Bland Sutton was using one old phrase for an old meaning, one old phrase for a new meaning, and one new phrase which meant nothing at all. He admitted that in the two specimens before them, Mr. Sutton had emphasised his discrimination, but he could bring a hundred in which no such discrimination could be exercised. He did not think that the new nomen-clature would help them very much. He shared the view as to the malignancy of par-ovarian cysts. He had seen them followed by sarcomatous growths within a few weeks of their removal. He certainly thought they ought never to be tapped.

Mr. BLAND SUTTON, in reply, said it was not easy to demonstrate the relation of cysts, when large, to their respec-tive regions, but a prolonged study of the matter had con-vinced him of the accuracy of the conclusions he had just mentioned. The term paroöphoron was used by him in a very different manner to that of Waldeyer, inasmuch as he (Mr.

Sutton) included under that term not only the paroöphoron of Waldeyer, but also the "tissue of the hilum," which is composed mainly of mesonephritic remains in various stages of retrogression. He was hopeful that this method of classification would replace the clumsy nomenclature now in use.

Sarcoma of Ovary. By F. A. Purcell, M.D.Mch., Surgeon to the Cancer Hospital.

Emily Wright admitted to the Cancer Hospital, under Dr. F. A. Purcell, on April 16th, 1888, aged 35.

Family History.—There is no history of cancer in her family. Her general health has always been good. She has been married thirteen years, and has had six children and two miscarriages. She states that a year and seven months ago, being six months advanced in pregnancy, she had a fall which shook her very considerably. She went her full time, and her youngest child was born quite naturally. Very shortly after this the nurse noticed a lump on the right side of the abdomen, which did not go away, but grew gradually larger and more prominent in front, so that in time the whole abdomen was abnormally large. She suffered occasional pain in the right side, and difficulty in micturating. On admission she appeared somewhat thin and careworn for her years, but otherwise in fairly good health. There was little, if any, constitutional disturbance. She was able to get about and take occasional short walks, though the size and weight of the tumour interfered with locomotion and caused her to be soon tired.

Examination.—The measurement round the body at the level of the umbilicus was 38 inches.

Per Hypogastrium.—A prominent nodulated tumour was discovered inclining to the right side, where some fluctuation was made out. The lower part of the tumour was very hard and on the left side some bosses were felt, which were softer; the whole mass was freely movable. The abdominal veins were moderately distended. There was general dulness on percussion. *Per Vaginum.*—Condition normal (sound not passed).

After being in the hospital for six weeks, during which time the girth round the body at the level of the umbilicus had increased to 39 inches, a consultation was held as to the advisability of operating. The patient and her friends having given their consent, laparotomy was decided upon. Meanwhile her health had remained much the same as on admission. She had suffered occasional pain in the right side and back, together with sleeplessness at times, and for the last three weeks slight incontinence of urine. A small amount of ascites had developed. The condition of the thoracic organs was satisfactory, and on testing the urine it was found to be healthy.

Before the operation the following measurements were taken:—

From the ensiform cartilage to the umbilicus ... 8½ inches.
„ „ umbilicus to the pubes ... ... 9 „
„ „ „ „ „ ant. sup. spine (left)... 8⅞ „
„ „ „ „ „ „ „ „ (right) 10 „

June 28th. — Operation performed: — Laparotomy — tumours removed. Death.

A long medial incision was made through which the tumour was unable to be withdrawn, on which a trocar was passed into the tumour over a part where the wall was thinnest, giving exit to a purulent bloody discharge. This allowed the tumour to be got out of the abdomen. The pedicles were two, long and slender, no attachments; these were tied, and the tumour released. The right ovary was found cystic, about the size of one's fist, and was removed. The peritoneum was washed out and wound closed. The left ovary, as seen, has very thick walls, and a large cavity, of sarcomatous growth; the Fallopian tube and fimbricated extremity is seen on the surface. The growth is as large as a man's head.

Mr. LAWSON TAIT said he did not think that it was an ovary at all; he thought it looked more like the fundus of the uterus.

Mr. BLAND SUTTON said he was sorry to differ from Mr.

Tait, but he was prepared to affirm that it was an ovarian adenoma.

Dr. BANTOCK suggested that the specimen should be submitted to Mr. Sutton, with a request that he should report thereon.

Dr. PURCELL, in reply to questions, said that it was a sarcomatous growth; he had felt the uterus after the removal of the growth while searching for the other ovary. Accounted for its formation from the fall, as mentioned in the history of the case. The patient subsequently died of acute peritonitis. The specimen shows a large cavity with broken down fibrous walls, which had deceived Mr. Lawson Tait in looking on it as the uterus.

Dr. EDIS exhibited a so-called parovarian or broad ligament cyst, removed from a patient, aged 17, in the Middlesex Hospital. The patient had always been in a delicate state of health, but since the first appearance of the catamenia at the age of 12½ years, she had suffered continuously from pain in the lower abdomen, especially on the left side, to such an extent that she was compelled to spend most of her time lying down. Dysuria was a marked symptom, as also dysmenorrhœa, accompanied by distressing headache, and there was also marked pain in defæcation. On examination the uterus was found to be fairly normal in position and mobile, the uterine sound entering a normal distance.

In the situation of the left broad ligament, posterior to the uterus, a cyst the size of a large lemon was detected, the left ovary being separate and distinct, somewhat enlarged and painful on pressure. An incision about two inches was made in the mesian line as near the tubes as practicable, and after some little difficulty the cyst was brought up through the opening, when the ovary was found to be closely associated with it, but quite distinct from the cyst. The pedicle was transfixed and secured in the usual way, the cyst and ovary being removed. As the right ovary was found to be enlarged and cystic, this was also excised. The patient made

a slow but satisfactory recovery, and left the hospital within the month. On examination the cyst was found to spring from the broad ligament. As Mr. Sutton had prepared the specimen, and was present to make some remarks upon the pathology, Dr. Edis would leave this portion of the subject for him to describe, as in addition to the cyst indicated there were certain minor cysts exemplifying Mr. Sutton's classification which could not fail to prove of interest to the Fellows of the Society.

Mr. BLAND SUTTON said, in addition to the specimen removed by the President (Dr. Edis), he had brought two other specimens to the Society, because the three illustrated in a striking manner the restriction of certain cysts tc definite regions of the ovary.

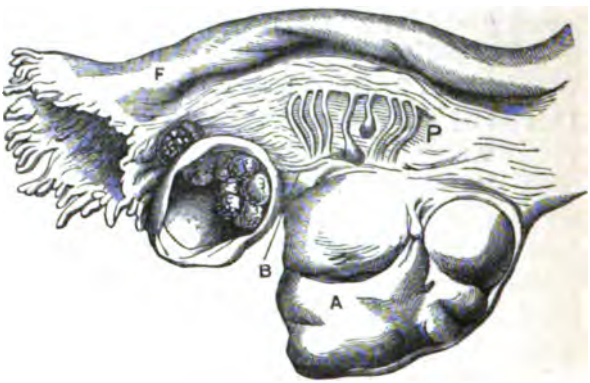


Fig. 1.—Sagittal section of the ovary. A. A cyst of the oöphoron. B. The paroöphoron. P. Parovarium. F. Fallopian tube.

The first showed the ovary in sagittal section, and as is well shown in Fig. 1, the *oöphoron*, or egg-bearing region of the ovary was occupied by an incipient cyst, which was indistinguishable, when examined microscopically, from an ordinary ovarian follicle. In this case the paroöphoron, B, could be clearly distinguished even without a microscope.

A study of several specimens of this nature had served to convince him that the cyst in Fig. 1 represented an early

stage of what is clinically recognised as the unilocular ovarian cyst.

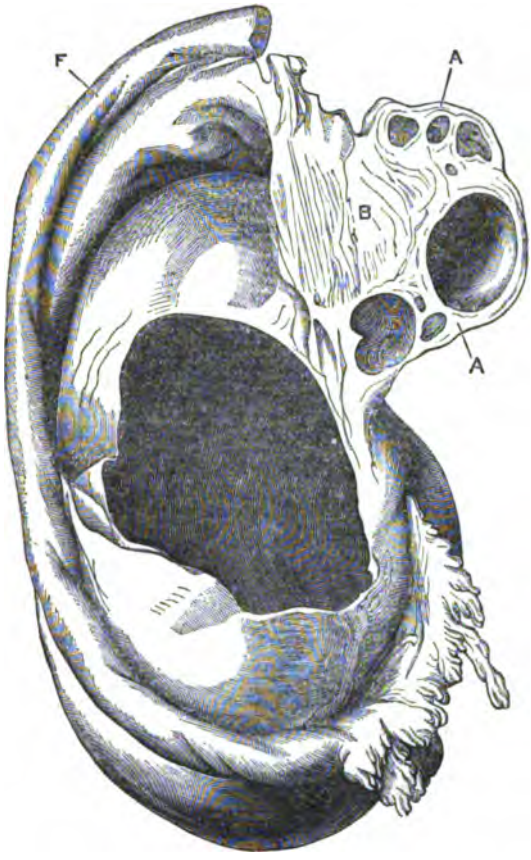


Fig. 2.—The uterine appendages. Two incipient papillary cysts are attached to the paroöphoron B, unconnected with the parovarium P. The oöphoron A contained nodules of secondary cancer.

The second specimen was an ovary with two small papillary cysts (for permission to exhibit this ovary, Mr. Sutton was indebted to his friend Mr. Leopold Hudson). A critical examination and dissection of the parts showed the cysts to be connected with the paroöphoron: the parovarium being

easily dissected, and had no connection with the cysts. The parts are represented of nearly natural size, Fig. 2. The oöphoron was occupied with nodules of secondary cancer. The parovarium presented two small pedunculated cysts.

The third specimen (the one removed by Dr. Edis) was an example of the common parovarian cyst, and is represented of natural size in Fig. 3. A section through the ovary in this case was very instructive: the oöphoron was occupied by a few cysts, some of them being slightly enlarged ovarian follicles. The paroöphoron is very large and conspicuous, whilst here and there a parovarian tubule could be detected stretched over the cyst.

Fig. 3.—A parovarian cyst. A. Oöphoron. B. Paroöphoron. F. Fallopian tube.

The specimens were shown not merely as rare or isolated specimens, but because they illustrated in a striking way the advantages likely to accrue by adopting this embryological method for the classification of ovarian cysts in general. It should be mentioned that papillary cysts occur chiefly in the paroöphoron, but without doubt they may occasionally ori-

ginate in the tubules of the parovarium, but this, far from invalidating the method, actually strengthens it, inasmuch as the paroöphoron and parovarium are part and parcel of one structure, viz., the degenerate mesonephros and its tubules.

1. Dr. BANTOCK exhibited a small fibroid tumour which he had removed from the *fundus uteri* after dilatation of the cervix on 5th of April last. The specimen might be regarded as very insignificant from its small size, being no larger than a cob nut, but, clinically, it was important. It might be remembered that at a former meeting of this Society he had shown a blood cyst of the left ovary with its blocked and enlarged tube, as well as the appendages of the right side damaged by inflammation, which he had removed from a married woman, aged thirty, who had had one child five years before, and in whose case the operation had been undertaken chiefly on account of severe menorrhagia and metrorrhagia. He then stated that, though the appendages had been thoroughly removed on both sides, the menstruation had returned and was still excessive. He further expressed his opinion that there was probably something within the cavity that might at a future time require removal, although the cervix had been dilated and the cavity curetted before she came under his notice. When he first saw the patient, he suggested the same course as a preliminary, but was told it had already been done, and he expressed his satisfaction, when exhibiting the specimens, that he had been driven to the course he had pursued—viz., the removal of the extensively diseased appendages; for dilatation of the cervix might have been attended with very serious consequences in the lighting up of a fresh inflammatory process. He expressed his belief that this operation would offer little risk of injury at a later period and the result confirmed his anticipation, for the dilatation of the cervix, and the removal of the small growth had been done without the slightest local or general disturbance. The tumour was a submucous fibroid, quite sessile, and he removed it by means of a fenestrated forceps. He was happy to say that the result was a complete success,

for when he last saw the patient, viz., on August 25th, menstruation appeared to have ceased finally.

2. He had now to show two specimens of disease, which though not coming exactly under the head of gynæcology, would, he doubted not, be of interest to the Society, and might be admissible as occurring in women.

a. The left kidney of a married woman, aged 38, the mother of six children, of which the youngest was only eight months old. It was an example of hydro-nephrosis. The patient was sent to him by Dr. Morris of Wellingborough, under whose care she had been for many years. The history she gave was that she had suffered from aching and pain in the left side for many years—she thought as many as twenty—and which first attacked her after falling against a door, and coming into forcible contact with the projecting key, whilst romping. Thirteen years ago she passed a small calculus, which was said to be renal, as it was attended with hæmaturia. In the earlier part of her married life the pain disappeared, but after every confinement she was sensible of a swelling in her left side, a few inches above the groin. After her third confinement, five years ago, she had hæmaturia for two or three days. A few weeks before this she had been thrown out of a carriage, striking her left side, but was not much hurt, and the pregnancy proceeded without even a threatened interruption. For the last year and a-half she had suffered much more inconvenience and the swelling had become larger and harder, and Dr. Morris then brought her to him. She was admitted into the Samaritan Free Hospital in July, and the operation was performed on the 11th. There was no difficulty in the operation, as there had been no inflammatory action, and the kidney was easily shelled out of the loose connective tissue in which it lies normally. In the course of the operation it was tapped, and a clear, inodorous fluid removed to the amount of a pint and a-half. The ureter was reduced to a small cord and was evidently impervious. There was very little bleeding, but a drainage tube was inserted without securing the edges of the peritoneal envelope.

The drainage tube was removed on the fourth day, the convalescence proceeded without any notable incident, the highest temperature recorded being 100—first about twelve hours after operation, and again on fifth day coincident with the onset of menstruation, and the patient left the hospital quite well on August 9th. The kidney presented a sacculated appearance, and the character of the fluid made it evident that what remained of kidney structure had long ceased to discharge its function. Thus it will be seen that there is a history of calculus as the starting point, that although the stone was got rid of by nature's method, the structure of the kidney had somehow suffered injury, but that it was not till the ureter had become completely blocked that the increase in size had been marked. There was no evidence of any inflammatory action at any period, as in the next case to which he would now call attention.

b. In this case, the patient was a single girl, aged 19, and he brought the specimen in its fresh state—the operation having been performed that afternoon. He considered himself fortunate in being able to show the specimens together, for they had an important bearing upon one another. In January last the patient hurt herself by the Serpentine Bridge, Hyde Park, by running against a post, in her endeavour to get out of the way of a passing vehicle. She felt pain at the time, but it was not so severe as to prevent her walking to her situation, and riding some distance besides in a cab. This pain continued till the following morning. Having then observed that her urine contained blood, a doctor was sent for, and he advised her to go home. Up to this time she was not aware of anything wrong, but, on the contrary, she appeared to be in good health. She continued to pass blood at intervals, and her health became somewhat impaired. In the course of the summer she came under the care of Dr. Campbell Pope of Shepherd's Bush, and he sent her to him (Dr. Bantock). She was then passing a large quantity of pus with the urine, and as there were no signs of bladder irritation, it was assumed that it came from the kidney, which formed a marked

tumour in the right side. As neither the patient nor her friends seemed then inclined to entertain the question of an operation, she was put on tincture muriate of iron. In September, Dr. Pope announced that the patient was ready to submit to operation, and she was accordingly admitted in the first batch on October 1st, but for various reasons her turn had come only that day. As in the former case, the incision was made just outside the rectus muscle. In the course of the incision the deep epigastric was wounded, and three bleeding points were tied, the ligatures being cut off short. After dividing the peritoneum over the kidney—the colon being already displaced inwards—the organ was partly separated from its adhesions with rather free bleeding, about a pint of purulent urine was drawn off by means of a stout aspirating needle, the separation was completed, and the vessels and ureter were secured by stout ligatures. The opening in the peritoneum was partly closed, the remaining free edges were secured to the abdominal wound, a drainage tube was inserted and the wound closed. On opening the kidney, a peculiarly formed calculus with three processes, and of the oxalite variety, was found, and removed with difficulty. The operation presented a marked contrast with the former case. In the course of the afternoon the question had been raised by one of his colleagues as to whether the proper course had been pursued. While admitting that the diagnosis was correct, he maintained that the wrong course was adopted, that instead of removing the organ, an incision should have been made into the kidney through the loin, the stone removed and the kidney drained. Against this view, he contended that the stone might have escaped detection or have defied removal, that, in consequence of the damage already done to the kidney, the most we could expect would be a permanent urinary fistula to the great discomfort of the patient, and the necessity of having recourse to extirpation at a later period, with probably diminished chance of success. He thought the preceding case threw a great deal of light upon this one. In that case there was a history of calculus many

years ago. There was apparently at first, and for many years, no difficulty in the escape of the urine, and yet there was evidence, from the size of the organ, that sacculation was an early feature as in this case, and it is a fair assumption that with the expulsion of the stone the kidney had been unable to recover itself, and remained permanently damaged. It must be quite evident, from the extent of the sacculation of the upper part of this kidney, that this condition existed long anterior to the date of the injury, and that the latter had only been the means of discovering the presence of a stone, just as a blow on the breast often leads to the discovery of cancer in that organ. In this instance, the stone had evidently formed in one of the calices, from which it had not been dislodged. He admitted that if the stone were in the pelvis of the kidney, the proper course would be to cut down upon and remove it through the loin with a good prospect of success. But he maintained that in this instance he had pursued the proper course.

Dr. BARNES said that there could be no question that in certain cases the kidney ought to be removed, but looking back to the earlier proceedings in the evening, one could not help thinking of a patient with only one kidney and asking what would have been the result. He asked what means were available in order to ascertain whether there was another kidney or not; that consideration might turn the scale in some cases. The kidney might recover a fair degree of efficiency, and that would be a reason in favour of deciding not to do too much.

Dr. MACKERN asked why Dr. Bantock had performed the lateral incision in this case, because with the central incision it would have been possible to find out whether there was another kidney? Another point in which he would venture to differ from Dr. Bantock was this: that speaker had said, that had the stone existed in the pelvis of the kidney, he would have felt justified in cutting into this, and removing the stone. Dr. Mackern was under the impression that a stone, even when lying in the pelvis of the kidney, was best

removed by incision through the substance of the organ and not by incision into the renal pelvis. The latter practice was very often followed by incurable urinary fistula.

Dr. EDIS (the President), said he had taken up the subject with a great deal of interest in years gone by. The question was one which presented great difficulties. He remembered that it had been suggested to block up the ureter and see if the urine accumulated. He thought they ought always to examine the kidney through the loin. The first time he had to bring his knowledge to a crucial test was in a case of pyo-nephrosis. He explored carefully and found that the right kidney was very much enlarged. As he did not think he could safely get the kidney out by the loin, he made a central incision and ascertained that the other kidney was not enlarged nor irregular, after which he removed the diseased one; he was not, however, prepared to say that this was the proper course to pursue in every case. He said that if Dr. Bantock's specimen had been shown at other societies, some men would have contested the point and would have urged an exploratory incision, removing the calculus by means of the forceps or fingers and draining. Then if the worse came to the worst, it would still be perfectly competent to remove the kidney by making a larger incision. The tendency of the present day was to preserve organs, but in his own case there were thirteen calculi, and it would have been absurd to leave an organ with scarcely any healthy tissue. Although it was not strictly a gynæcological question, it was very necessary that the surgeon should be armed *cap-à-pied* and should be prepared to remove whatever organ might be necessary.

Mr. BOWREMAN JESSETT preferred operating upon the kidney through the loin in all cases, excepting very large solid kidneys. With regard to the second patient of Dr. Bantock's, he thought she would have stood a better chance of recovery if the kidney had been reached through the loin; the calculus removed and the wound freely drained and irrigated, the kidney substance would probably have recovered

to a very great extent, if not entirely. He asked whether Dr. Bantock had catheterised the ureter in the first case to ascertain the presence of a calculus. He mentioned a case which had been sent to him, and which in his absence had been operated on by Mr. Stonham, who cut down upon the kidney through the loin and drained away a large quantity of stinking pus and then left it. A urinary fistula remained, but it contracted a good deal and the patient improved in health. At a second operation the kidney was successfully removed by the loin. He thought that if Mr. Stonham had operated through the abdomen he would very probably have killed the patient, whereas by cutting through the loin the pus was evacuated, though the kidney was ultimately removed. He quite endorsed the remark as to the necessity of ascertaining the presence of another kidney and also as to its healthy condition.

Dr. BANTOCK, in reply, said that the point raised by Dr. Barnes was a very important one, for it might happen, as in the instance referred to by Dr. Fenwick and in Dr. R. T. Smith's example on the table, that the patient might have only one kidney. In such a case it was essential that the organ should not be removed, however much damaged. But he could not imagine that a patient possessing only one kidney, and that so much disorganised as his specimen, could have presented the robust appearance of his patient. Such a serious condition must necessarily have been indicated in the general appearance. He preferred the lateral to the central incision, because he had a definite idea beforehand as to what he was going to do, because it gave more direct access to the kidney, and, as it was always advisable to drain, because it was much easier to secure efficient drainage. In his first case of this kind the tumour had been mistaken for an ovarian tumour, chiefly through a reliance upon the report of her medical attendant, that the urine was quite healthy, though it must have contained a quantity of pus as shown by the first specimen obtained after the operation. The median

incision was adopted, and it was found very difficult to secure the drainage tube in position; he would therefore recommend the lateral incision to any other. He objected to the operation through the loin in the case of such a large tumour, believing that it would be impossible to complete it by that mode. In reply to Dr. Mackern, he said he had no experience of cutting through the substance of the kidney for stone either by the loin or otherwise. He presumed that it was necessary to success that the stone should be in the pelvis of the kidney, and therefore be easily removable. He had already pointed out that in his case it would have been difficult to find the stone and more difficult to remove it, if indeed it were possible. Referring to Dr. Jessett's view, that he ought to have cut down through the loin, removed the stone and drained, he repeated the objections already urged. The ingenious method of diagnosis referred to by Dr. Fenwick, viz., by examination of the openings of the uretus into the bladder, he did not see the necessity for such a course in such a plain sailing case as his, and should he at any time require to practise such a method he would gladly avail himself of Dr. Fenwick's skill and experience.

Case of Ovarian Tumour with Twisted Pedicle.

By RICHARD T. SMITH, M.D.

THE case was first seen three weeks previously. The patient, 32 years old, complained of the enlargement of the abdomen, and had been told two months before, by a doctor, that she was pregnant. Having no feelings pointing in this direction, and having been perfectly regular in menstruation, she could not understand this. She had no pain in particular, the function of the rectum and bladder were quite natural and easy. The swelling, which she had only discerned for about six months, and loss of flesh were the chief features.

Examination (*abdominal*).—A large uneven prominent elastic tumour filled the abdomen, reaching up to the dia-

phragm on the left side. *Vaginal.*—The cervix small and hard, the post *cul-de-sac* completely occupied by a dense swelling.

On admission into the hospital, about ten days later, her condition seemed unchanged, and as the period was due in two days she was allowed to remain perfectly at rest.

On the third day the flow appeared, associated with some degree of sickness and faintness, and diffuse pain, not severe, over the abdomen. The bowels not having acted since admission, mild laxatives were administered with a simple enema, but with no relief. Next day the temperature was 101.4°, the abdomen was more distended, especially in the region of the ascending colon, and the vomiting and faintness became alarming.

Convinced she was suffering from obstruction and peritonitis, Dr. Smith called one of his colleagues, thinking to operate at once, but finding she had passed ten hours free from sickness, that a fair motion had passed, and the patient was evidently more comfortable, and it being eleven o'clock p.m., he postponed operative interference to next day.

Operation.—Two p.m. On opening the peritoneum, which was very vascular, about a quart of ascitic fluid escaped. A huge deep blue tumour presented itself, absolutely free from adhesions, except two inches of intestine attached to the upper surface of the pedicle by recent disease. The pedicle itself was twisted half a turn. The contents of the tumour, which seemed almost pure blood, measured eight and a-half pints. The solid portion weighed five and a-half pounds. The veins in the pedicle were the size of a cedar pencil and were filled with clot. The large cyst removed, another was found tightly wedged in the pelvis; this contained ordinary fluid and was removed without difficulty. The intestines were greatly distended, and of marked pink colour. The peritoneum was velvety and a quarter of an inch thick. The Fallopian tube and lower third of the tumour were absolutely black.

The patient was extremely blanched, and at the close of

the operation had a pulse of fair volume, about 130 in frequency, and sank of shock in seven hours. There was no vomiting until half-an-hour before death, and nutritive enemata were all retained.

Post-Mortem.—Both pedicles were quite intact, and only stained serum was found in the pelvis. Curiously the patient had only one kidney, and that on the left side. It was about half as large again as natural; the capsule was adherent and tore the kidney substance, which was distinctly granular. The liver was fatty. The heart was a little enlarged and the tissues flabby.

Dr. Smith said he thought it was their duty to record these unsatisfactory cases. Six months ago he had shown a specimen from a similar case in which the patient recovered, although for six hours she had a pulse of 160. Until the abdomen was opened, he had not suspected that it was a twisted pedicle, the symptoms pointing more to a low form of peritonitis; the mass in the pelvis, and the five days' constipation and the distended colour rather indicated obstruction. In all probability the renal disease and the condition of the liver, which pointed to alcoholism, were essential factors in the want of recuperative power.

Dr. Smith drew attention to the fact that in both cases the twisting occurred at the menstrual epoch.

Dr. BANTOCK said this was a very interesting example of twisted pedicle, and the symptoms were, he might say, fairly characteristic of the condition. The only question in his mind was as to whether it would not have been advisable to allow the patient to get over the shock, for, he said, there was always an amount of shock when strangulation of the pedicle took place. Some years ago he had seen a case operated on at the Samaritan Hospital at the same stage and the patient also died. If they had waited a little longer the depression would have passed off. The tumour would have become smaller, and the operation would have been performed with a much better prospect of success. He had not only operated upon such cases, but he had diagnosed them. The symptoms

were localised peritonitis, high temperature, quick pulse, vomiting, and great abdominal tenderness. After a few days these symptoms subside and the patient recovers. In the course of a few weeks the tumour gets smaller. He did not wish to say that he should have acted otherwise than Mr. Smith had acted, but looking at the case with the light which the operation had cast upon it, he felt inclined to say that it would have been better to have waited until the acute symptoms had subsided, just as after a severe injury the surgeon waited until the shock had passed off before performing a major amputation.

Dr. BARNES asked Dr. Bantock if he was prepared to accept these symptoms as a general rule in diagnosis to pedicle action. His own experience of twisted pedicle was that it went from bad to worse. The first shock was not all; there was a continuous shock from increasing injury leading to exhaustion, and he thought it was very desirable to cut the matter short by operating at once. He thought it was rather hazardous to wait, as similar symptoms might be due to ruptured tubal pregnancy.

Dr. BANTOCK, in reply, said that the conditions in a case of ruptured tubal pregnancy were very different. There was a well-defined tumour in the one case, and an ill-defined tumour in the other. In one case there was evidence of pregnancy, and in the other not. Again, the symptoms were much more marked in tubal pregnancy than was the case in hæmorrhage into a cyst. There was, in addition, the extreme abdominal tenderness in twisted pedicle, sometimes peritonitis in a marked form. Indeed, the conditions were so dissimilar that there was little danger of any confusion in the diagnosis.

Dr. HEYWOOD SMITH said that in the one case the hæmorrhage was limited to the cyst, while in the other it was practically unlimited, consequently the pulse would be different in the two cases. In ovarian tumour there would be tension and the pulse might recover itself, whereas in ectopic gestation the woman might bleed to death and immediate operation was necessary.

Dr. FENTON mentioned that in the one or two cases he had met with, the symptoms of obstruction of the bowels were also present. Strangulation of any abdominal structure seemed to give rise to very much the same symptoms—vomiting, constipation, &c. In Dr. Smith's case the obstruction was apparently overcome, but still the doubt remained. In many cases of twisted pedicle they opened the abdomen not knowing exactly with what condition they had to deal. He thought the obstructive symptoms often drove men to operate, as it might have done in Dr. Smith's case. He did not believe that symptoms of twisted pedicle were so distinct that they could be absolutely differentiated.

The PRESIDENT (Dr. Edis) observed that he had seen cases of this kind where it was absolutely impossible to know before they opened the abdomen with what they had to deal.

Dr. BANTOCK wished to emphasize the fact that in ruptured tubal pregnancy the pre-existing tumour would be less distinct than before, whereas in ovarian tumour with twisted pedicle it would be even more tense than before.

Dr. SMITH, in reply, said the symptoms came on very gradually. There was no sudden onset, as there was in some of these cases, pain was not very marked, so that although he had had a similar case six months before, and might, therefore, be supposed to have his eyes open to the possibility of its occurrence, he did not in this case suspect a twisted pedicle. There had been a distinct rest of sixteen hours.

The Society then adjourned.

REVIEWS.

A New Contribution to the History and Etiology of Spondylolisthesis. By FRANZ LUDWIG NEUGEBAUER, M.D., of Warsaw. Translated by FANCOURT BARNES, M.D., Physician to the Chelsea Hospital for Women, to the British Lying-in Hospital, and to the Royal Maternity Charity of London.

This monograph is one of several others which have appeared in the last volume of translations published by the New Sydenham Society. In his introductory note to the translation Dr. Fancourt Barnes says:—"Since Kilian, in 1853, first drew the attention of obstetricians to the spondylolisthetic pelvis through the specimen known as the Prague pelvis, no new light had been thrown upon the condition until Neugebauer, in 1884, propounded his views in the Annales de Gynécologie.

"Until Neugebauer had examined and described the seventeen pelves recognised as spondyl-olisthetic up to that date, the views of Rokitanski and Kilian, that the lesion originated in caries of the vertebra, were generally accepted. Neugebauer, however, demonstrated by his specimens at the Obstetrical Society in 1884, that in many cases the deformity arose from some breach of continuity, either traumatic or congenital, in the neural arch."

A committee was appointed by the Obstetrical Society, consisting of Dr. Robert Barnes, Messrs. William Adams, Alban Doran, and Noble Smith. These gentlemen, after having examined the specimens and consulted thereon, reported that they agreed with Dr. Neugebauer in his views, and confirmed the accuracy of his conclusions. It is now generally accepted that this deformity, in the majority of cases, results from a solution of continuity across the neural

arch of the fifth lumbar vertebra between its superior and inferior processes on either side. This theory is in opposition to the views formerly held, namely, that the deformity occurred from caries, rickets, osteomalacia, tuberculosis, or hydrorachis. The solution of continuity of the neural arch may, according to Neugebauer, be congenital or acquired. Neugebauer suggests that pathologists should carefully examine the pelvis in all fatal cases of injury from falling. He believes that if this is done, commencing, or advanced, spondylolisthesis will be occasionally discovered.

Curvatures of the Spine. By E. NOBLE SMITH, F.R.C.S. Surgeon to All Saints' Children's Hospital. London. Smith, Elder and Co., 1888.

This small volume contains in a compact form a description of the various forms of curvatures of the spine. The author discusses in a very practical and common-sense style the questions which commonly occur to the medical man when he meets with one of these troublesome cases. The nature and pathology of the conditions leading to spinal disease are fairly discussed. The bulk of the work, however, is devoted to a description of the various methods employed in relieving deformities of the spine.

NEW INVENTION.

Dr. Heywood Smith's Hospital Bed.

It is claimed for this bed that its height, 28½ inches, exclusive of the mattress, obviates the necessity of the doctor or nurse stooping over patients, and that the large india-rubber castors, which enables the bed to be easily moved about the room for operations, &c., are great and novel improvements. We have examined it carefully and can thoroughly endorse both the correctness of the mechanical principles of the bed, the excellence of the materials and work, and the advantages which are claimed for it.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

EDINBURGH MEDICAL JOURNAL.

The Treatment of Fibroid Tumours of the Uterus by Electricity. By SKENE KEITH, M.B., F.R.C.S.Ed.

Six cases of fibroids, treated by electricity, are shortly recorded in the February number of this Journal.

Case 1.—H., æt. 47, has noticed a tumour for more than twelve years. Suffered from severe floodings at times, with great inconvenience owing to the size of the tumour. Had retention of urine. The mass extended beneath the ribs and filled the whole of the pelvis, so that a finger could not be passed between the pubes and tumour. The cervix was out of reach of the examining finger, and the bladder had become an abdominal instead of a pelvic organ. On July 11th negative galvano-puncture was made, and a current of nearly 200 milliampères passed through the tumour for five minutes. After five applications patient felt relieved, and the finger could be passed between the pubes and anterior portion of the tumour. Menstruation was less and more regular. Bladder symptoms had entirely disappeared. After the thirteenth application the tumour could be felt to be free from the ribs.

Case 2.—Mrs. C., æt. 36. For nearly two years has suffered from scanty menstruation, much watery flow between the periods and constant pelvic pains. The uterus was large, four and a half inches, and pushed forward by a hard fibroid lying behind it, and occupying most of the pelvis. Removal of the ovaries had been agreed to, but electricity was tried instead. In five weeks fourteen negative intra-uterine applications and two negative galvano-punctures were made.

Result.—Uterine cavity was reduced to three and-a-half inches, the tumour "which previously had about filled the pelvis, felt about the size of a somewhat enlarged ovary." Pain disappeared and the patient returned home feeling quite well.

Case 3.—Mrs. B., æt. 57. Had suffered for thirteen years or more with a fibroid tumour. After the menopause the tumour continued to grow and became fixed under the right ribs. The patient complained of great discomfort from the size of the tumour and of bladder troubles. The tumour was hard and filled the pelvis. Intra-uterine negative applications were made, and after four sittings the patient expressed herself as feeling greatly improved. After twenty-three applications the tumour was not half the size it had been, and the patient was decidedly benefited. Unfortunately, on her return home, she "got a chill," and when last heard of the tumour "had become decidedly swollen."

Case 4.—Miss G., æt. 50. Has suffered for twenty years, and for the last six years has been confined to her bed for six months out of the year. The patient could scarcely walk and complained of great pelvic pain. An irregular tumour occupied the pelvis and right side of the abdomen, and extended up to the umbilicus; on the left side the tumour extended higher than on the right. Twenty-three applications were made, each lasting five minutes, the intensity of the current ranging from 100 to 200 milliampères. After five weeks she walked three miles, and seven weeks from the commencement of the treatment returned home with the tumour greatly reduced in size.

Case 5.—Miss G., æt. 40; noticed an abdominal tumour eighteen months ago, which extended up to the umbilicus. Has suffered from menorrhagia for some time past. Negative intra-uterine applications were made, and after seventeen sittings the tumour had diminished considerably in size, and the patient expressed herself as feeling well.

Case 6.—Miss W., æt. 44. Had been told four years ago that she had a fibroid tumour. Menorrhagia for the past

seven years had been profuse. The tumour filled the abdomen, reaching to one inch above the umbilicus, the sound passing six and-a-half inches into the uterus. Positive applications were first made to arrest the flooding, and were followed by thirteen negative applications. The size of the tumour diminished very markedly, especially on the left side. Beyond the fact that the tumour decreased in size, we learn absolutely nothing.

In *Cases* 1, 4, 5, 6, it might very fairly be said the patients had reached the climacteric period, when, as is well-known, fibroids will frequently by themselves undergo a retrograde change and gradually disappear. There are many other points of interest in these cases which, in our opinion, might have been alluded to, but which are conspicuous by their absence.

Mitral Stenosis and the Third Stage of Labour.

By Dr. BERRY HART.

Three cases of parturition are recorded, in which the woman was the subject of mitral stenosis. The treatment of these cases during pregnancy, and especially during the third stage of labour, is discussed. During pregnancy, rest with strophanthus when circulating disturbances begin will generally be sufficient. During labour the action of the strophanthus must be kept up, and delivery effected as soon as possible. The third stage, which is the most dangerous, demands constant attention. In this stage, Dr. Berry Hart advocates the following line of treatment: (1) give no ergot; (2) feel no alarm at even free hæmorrhage; (3) be specially on the look out if hæmorrhage is scanty; (4) if the circulation becomes embarrassed, as evidenced by irregular heart action or dyspnœa, then push strophanthus and dry-cup over the heart. Bleed the patient from the arm, if the latter fail; (5) even if all seem right, have the patient constantly watched for the first day.

Dr. Berry Hart has met with eight cases of mitral stenosis complicating labour, seven of which died.

THE BIRMINGHAM MEDICAL REVIEW.

At a meeting of the Midland Medical Society, held on January 25th, 1888, Dr. Ross Jordan in the chair, Mr. J. W. Taylor read a paper on "The use of Electricity in Gynæcology." This paper we have already noticed in a previous number, but the discussion on it was omitted and is now shortly reported.

Dr. ROSS JORDAN, in opening the discussion, had tried electricity years ago, but was not satisfied with its results. Many of Apostoli's cases of myoma were possibly "sub-evolution."

Dr. LESLIE PHILLIPS showed a cheap and useful apparatus, the cost of which was only five pounds. There was no advantage in a clay electrode.

Mr. LAWSON TAIT had been assured by skilled electricians that Apostoli's galvanometers were inaccurate. The treatment was full of dangers and deaths had been recorded. Six deaths had occurred in a single month in patients who were under Apostoli's care. In cases of reflex uterine and ovarian disorders, electricity would be found useful.

Mr. JORDAN LLOYD mentioned that electrolysis in stricture of the urethra had not succeeded.

Mr. BARLING had seen a death in the condition to which Mr. Lloyd referred.

Dr. TAYLOR, in reply, stated his firm belief that cases of myoma could be benefited by this method of treatment.

MIDLAND MEDICAL SOCIETY.

At a meeting of this society, held on February 22nd, Surgeon-Major Turton in the chair, Mr. Jordan Lloyd showed a specimen of sarcoma of the uterus removed *post mortem* from a child three years of age. The tumour was the size of a fœtal head, and had been first noticed six months before death. Microscopically, the tumour consisted of round and spindle cells.

Dr. SUCKLING asked if hæmorrhage had been a symptom?

Dr. PURSLOW inquired if there were secondary growths found in other parts of the body.

Mr. MARSH thought hysterectomy might have been performed.

Mr. LLOYD, in reply, could not answer the questions by Drs. Suckling and Purslow. No family history of malignancy could be obtained. Hysterectomy would have been very difficult from the extent of the adhesions.

THE PROVINCIAL MEDICAL JOURNAL.

Is Craniotomy Justifiable?

By T. READMAN, L.R.C.P., &c.

This article consists chiefly of short abstracts from various authorities who regard craniotomy as unjustifiable, and see in it an operation which is unscientific and deliberate murder. In the opinion of the author there is not a single argument to justify the destruction of an unborn and guiltless life; indeed, he considers the reasons for not sacrificing the child extremely strong. If it is argued that the child is destroyed to save a more valuable and useful life, the mother's, the author replies, "Who is to judge which is the more precious and important?" Upon this point Churchill says: "No man dare make such a choice, for we have neither the necessary knowledge, nor the right, nor the authority to decide which is the more important life, and the best worth preserving." Craniotomy, according to the author, is performed more frequently than is necessary, and to avoid it every pregnant woman should be thoroughly examined two months before term, when, if any pelvic deformity exists, premature labour should be induced. Though there are objections to be urged against Cæsarian section, these would be easily overcome were the operation made one of election instead of necessity. The death-knell of craniotomy has been sounded, and the time is not far distant when a more rational method of treatment will supersede an effete and irrational proceeding.

Exploration of the Female Uterus. By SCHULTZ.

There are three methods by which this may be carried out: (1) Simon's method, in which the urethra is dilated and the openings of the ureters found by the examining finger; (2) Newmann's, in which an endoscope is used to find the uteric opening; (3) Pawlik's, which is the best. A metallic catheter with a bulbous extremity is passed into the bladder, and the point directed to the fundus, with an inclination to one side. A depression leads to the orifice of the ureter, which is entered by gentle rotatory movements. The instrument will then glide forwards easily, but any side to side movement is very limited. Madame Schultz describes her method of palpating the ureters from the vagina. By this method the diagnosis of certain pathological conditions of the ureters and kidneys is rendered easy. The finger in the vagina in passing backwards from the urethra is carried in the middle line up to the anterior cul-de-sac. About half way between the vaginal cul-de-sac and the junction of the urethra with the bladder, is the field of observation. If the finger at this point be carried slightly to either side of the middle line the ureters will be felt as hard cords, resembling an artery. In order to palpate the ureters, it is necessary to have a perfect knowledge of the relations of the base of the bladder and the vagina.

ARCHIVES DE TOCOLOGIE.

Salpingitis and Ovaritis.

By CORNIL AND TERRILLON.

Owing to the frequency with which the tubes and ovaries are removed at present, the numerous opportunities of examining them microscopically have been the means of studying the pathological changes taking place in them. In salpingitis there is an increase in the number and size of the normal villosities. The wall of the tube is thickened, owing

to inflammatory change. The varieties of salpingitis may be classed as:

(1) *Salpingite Catarrhale Végétante;* the tube is hypertrophied and swollen and united by adhesion to the ovary. The fimbriæ are sometimes congested and enlarged and are then visible; at other times they become fused with the inflammatory material surrounding the ovary and binding that organ to the tube. In the ovary are found hœmorrhagic cysts and Graafian follicles more or less diseased. Microscopically there is a proliferation of the villi of the tube. The muscular coat is not much hypertrophied.

(2) *Salpingite Purulente.* In this variety the tube is distended with pus, and is often accompanied by purulent cysts in the ovary. Microscopically no microbes are to be found in the pus. The tubal villi are greatly hypertrophied, and are infiltrated with round cells. The columnar ciliated epithelium becomes shorter, though the cilia are often present. The muscular coat becomes greatly thickened.

(3) *Salpingite hémorrhagique.* The villi in this class are slightly atrophied, and the epithelium covering them assumes a more flattened form. The tubal wall is stretched and thinned.

(4) *Salpingite Blennorrhagique.* The tubes become distended with muco-purulent fluid consisting chiefly of detached epithelium undergoing mucous degeneration. The villi are small and vascular, covered with cylindrical cells with cilia. In places these cells have become detached and accumulated in the folds of the villi.

(5) *Salpingite Tuberculeuse.* The tube is irregularly thickened. Its peritoneal covering contains tubercles. The walls are thickened and contain patches of caseous infiltration and degeneration. The interior of the tube contains caseous material, while the villi are greatly hypertrophied and covered with cylindrical ciliated epithelium. Giant cells were found in places in the villi. With regard to the lesions of the ovaries, the most common was the fibroid induration, generally affecting the surface of the organ. The Graafian follicles were replaced by cysts.

Paralysis of the Sciatic Nerve from compression during Labour. By Dr. G. VINAY.

Paralysis following parturition is generally dependent on uræmia, albuminuria, &c., but in addition pressure on the sciatic nerve may be the cause of paralysis. Such cases are rare. They are unilateral and limited to the distribution of the sciatic nerve. In this case the patient was 32 years of age, 2-para. Labour pains began on the morning of April 5th, 1887, and on the 7th the membranes broke but the head did not come down. In the evening of the same day the head began to descend and rotated, the occiput to the front and left side. The forceps were then applied and the child extracted without much difficulty. Next day the patient was unable to move the right foot. On the 15th of April the foot was drawn down and all attempts on the part of the patient to flex it or turn it to either side were in vain. When the patient flexed the thigh on the abdomen it was rotated outwards to some extent. The *tensor vaginæ femoris* was inert. There was no diminution of sensibility. Faradisation and massage were employed, and by June 12th the paralysis had disappeared.

A Case of Inversion of the Uterus. By M. LE FORT.

In this case the inverted fundus was amputated, after all attempts at reposition had failed. The patient was delivered in February, 1887, and reaction on the cord produced inversion of the fundus. It was immediately re-inverted, but three days later became again inverted, and the patient began to have serious hæmorrhages. On June 10th several attempts, both manually and with the aid of Gariel's pessary, were made to re-invert the organ, but without success. As all efforts to replace the organ had failed, on July 21st an elastic ligature was placed round the pedicle and left there. On August 3rd the uterus became detached and the patient made an excellent recovery.

Olshausen has communicated to the Gynæcological Society of Berlin a cause of death after laparotomy. Death is especially liable to occur if the intestines have been long exposed outside the abdomen. Some days after the operation the patient becomes collapsed, and presents all the signs of ileus. Death usually occurs from the fifth to the tenth day after the operation. Olshausen attributes the death to intestinal paralysis and the absorption of poisonous substances developed in the intestines. The intestinal paralysis is due to circulatory troubles in the walls of the intestines which are occasioned by the long exposure of the intestines. These circulatory troubles consist of a venous statis and extravasation of blood into the intestinal walls.

REVUE MEDICALE D'EST.

Anteversion and Anteflexion of the Uterus during Labour. By Dr. S. REMY.

The conclusions arrived at by the author are (1) an attempt should be made to correct the forward inclination and anteflexion of the uterus, during the second stage of labour, by the various proceedings that are known to us; (2) the organ must be kept in place by an abdominal binder or belt; (3) if more active interference is not indicated, the patient should be instructed to refrain from voluntary efforts, so as to allow the uterus to act alone; (4) if these proceedings fail the forceps must be used.

REVUE DES MALADIES DES FEMMES.

The Treatment of Menorrhagia by Vaginal Injections of Warm Water. By Dr. NIVERT.

This method of treatment has been practised for some time past, and is, perhaps, becoming still more fashionable. The water, which must be of a temperature of from 45° C. to 48° C., may contain some medicament, or be used pure.

Vaginal injections will be found of use where menorr-

hagia is present with a large and congested uterus, with subinvolution, or, in chronic inflammations, with old or recent exudations.

Large Vesical Calculus. By Dr. POZZI. Read before the Surgical Society of Paris.

The calculus was thirty-eight millemètres in diameter, and was removed from the bladder of a female by rapid dilatation of the urethra. The patient was anæsthetised, and bougies of gradually increasing size were passed through the vesical sphincter. In about six minutes the calculus was extracted by the surgeon. Dr. Pozzi remarks that the calculus exceeded by three centimètres the size of a stone which it is generally admitted can be extracted from the bladder by dilatation of the urethra. In these cases an anæsthetic is necessary, as it prevents pain, and produces a transient paralysis of the smooth muscular fibres of the sphincter vesicæ, which are thus less liable to injury. Cocaine, in these cases, might be found of some value.

Antipyrin in the Treatment of Dysmenorrhœa.
By Dr. T. CHÉRON.

We have here recorded the success of antipyrin in the treatment of dysmenorrhœa. The author has tried the drug in various cases, which are due to perfectly distinct causes, and has been struck by the successful results in each case.

In two hysterical patients, both multiparæ, who, for some hours before the appearance of the menstrual flow suffered agonising pains, with frequent convulsions, this drug was administered with success. In three cases of dysmenorrhœa, due to atresia of the cervical canal, in which there also existed chronic congestion, antipyrin, administered as in the preceding cases, allayed the pains which formerly had been so severe as to cause the patients to take to their beds. The author has noticed that all patients do not bear the drug alike. He has

observed stomach troubles, obstinate constipation, vertigo, and other ill-effects follow the use of this drug.

The following is the formula employed :—

Antipyrin.....	4 grammes.
Elixir of garus.....	30 grammes.
Syrup of papaine or „ „ pepsin	30 grammes.
Distilled water.....	80 grammes.

Each tablespoonful contains 0·50 centigrammes of antipyrin. Take a tablespoonful every ten minutes, with a mouthful of seltzer water when the pain first appears.

On Gynæological Operations in Tubercular Subjects.

By M. JULES BATUAUD.

The indications and contra-indications for surgical interference in tubercular subjects have frequently been discussed. As, however, the subject is still far from being in a settled condition, we give the conclusions which the experience of M. Batuaud leads him to offer. Whenever a thin, sickly female of weak constitution is afflicted with a uterine affection demanding surgical interference, careful and repeated examinations of the chest should be made, and the patient kept some time under observation. If it is certain that she is the subject of pulmonary tuberculosis, a surgical operation is hardly justifiable. If, however, tuberculosis is only suspected, an operation may be undertaken, but great care is necessary for some time after, as the least cause may set up a smouldering disease which may end in death.

Should Abdominal Hysterectomy for Uterine Fibroids be continued? By T. BERRUTO.

The text for the remarks on this subject is taken from a portion of a letter published in the British Medical Journal, on December 10th, 1887. Without wishing to detract any

merit due to Apostoli, who "by his tenacity, his repeated publications, and by his lectures to different medical congresses, has directed the attention of surgeons to, and obliged them to recognise the superiority of, the electrical treatment in uterine fibroids," the author asks if the currents of high intensity employed by Apostoli are without danger? Is the operation which is so extolled free from inconveniences? And, lastly, is the same measure of success certain by this new method which is said to be more certain and less dangerous than hysterectomy? Danion who has made electricity a special study, decries electrical currents of high intensity. Apostoli has reported cases of death, attributable, according to him, to faulty manipulation. Danion, on the other hand, has known death occur when every precaution has been carried out with the minutest care. Every possible care should be taken to avoid pelvi-peritonitis, rupture of the uterus, congestion of the cord, &c., by the use of currents of lower intensity in the uterus or in the vagina. This method has for years past been adopted with a great measure of success and without an accident. Currents of high intensity are to be deprecated.

The Danger of Galvano-caustic Chemical Currents of High Intensity. By M. DANION.

Danion has known very serious complications, and even death, to be caused by the application of currents of high intensity. The author has experimented on rabbits and has shown that these currents of high intensities cause various congestive effects, the danger of which has been demonstrated by the death of animals and by autopsies made at different periods during the experiments. Currents of small intensity produce effects as good as currents of high intensity, and are unattended by danger. The conclusions the author arrives at are that (1) numerous and varied experiments prove that currents of high intensity often bring about marked congestions, frequently followed by inflammation.

(2) The clinical results obtained in the treatment of uterine affections confirm in a very clear manner the effects of experimental galvanism. High intensities frequently produce grave inflammatory symptoms and cause death.

(3) There exists no physiological fact, nor any empirical result, which can be used as an argument in favour of the substitution of currents of high, for those of low intensity.

(4) Tripier's method of using currents of low intensity has been enlarged upon by Apostoli, who employs currents of high intensity, the dosage reaching 200 and even 250 milliampères.

TRANSACTIONS OF THE GYNÆCOLOGICAL SOCIETY OF CHICAGO.

Regular Meeting, Friday, March 23rd, 1888.

The President, HENRY T. BYFORD, M.D., in the Chair.

A Report of Fifteen Cases of Fibroid Tumours of the Uterus Treated by Galvanism. By Dr. FRANKLIN H. MARTIN.

(The report including only the year's work of 1887.)

From January 1st, 1887, to January 1st, 1888, I applied galvanism in strong, accurately measured and definitely concentrated doses in gynæcological cases over 1,400 times. During this time I employed galvanism for uterine fibroids 623 times in fifteen cases. The result was as follows:

Not suitable for treatment and recommended for operation	1
Benefited	4
Symptomatically cured	5
Absolutely cured	5

The author of the paper then selected and gave in detail the history and treatment of five cases, two of which were symptomatic cures, two actual cures, and the remaining case was benefited.

The following is a short sketch of each case:

Case I.—Diagnosis: Large, painful, hemorrhagic, interstitial, and subperitoneal fibroid tumour of the uterus, filling the pelvis and extending nearly to umbilicus.

Treatment: a large number of applications of galvanism given by three different methods of procedure, extending over a period of more than two years.

Result: benefited.

The above is a continuation of a history, cited as Case X., in an article read by the author before the Section of Obstetrics and Diseases of Women at the thirty-second annual meeting of the American Medical Association at St. Louis, May 5th, 1886.

Miss C., unmarried, age 26, consulted me on account of large abdominal tumour. Upon examination, I found a large abdominal tumour, attached, as I then thought, to the whole anterior wall of the uterus, crowding that organ away from the bladder. I have since ascertained that the portion previously diagnosed as the uterus is simply the cervix, the uterus being lost in the mass of the tumour, and its canal traversing its entire depth. The tumour was ovoid, smooth, and easily movable under the abdominal walls, about seven inches in its long, and six inches in its transverse, diameters. The growth was increasing in size rapidly.

This patient then received in turn thorough trials of the iodine and glycerine treatments, ergotine treatment, and, as a last resort, surface applications of galvanism were made. This latter, thoroughly carried out, checked the growth, and markedly reduced the size of the tumour. This was found, however, to be of a temporary nature, the growth enlarging rapidly at all times except when under treatment. With an idea of getting more marked results, abdominal galvano-puncture was at last resorted to. In September, 1886, four operations were performed in intervals of ten days. The patient was anæsthetised, and a steel needle—four millimetres in diameter, with a trocar point, insulated with hard rubber to within three centimetres of the point, attached to the negative pole of the battery—was thrust through the abdominal wall into the thickest portion of the tumour. A large abdominal membrane electrode was placed upon the abdomen in close proximity, and attached to the positive pole of the battery.

A current of 200 milliampères was turned on and allowed to pass for fifteen minutes. The effect of these operations was a rapid diminution in the size of the tumour. The patient was advised to await further developments. At the end of two months she returned, stating that the growth of the tumour had recommenced, the hæmorrhage being excessive.

Dreading the necessary risk attendant upon abdominal puncture, and having at this time successfully treated a number of cases by Dr. Apostoli's method, I determined to adopt that safer and, in my opinion, much more effectual means in this case. Therefore, in January, 1887, regular treatment was instituted, consisting of the introduction of an intra-uterine platinum electrode to the bottom of the uterus, which was found at this time to measure eighteen and a-half centimetres or seven and a-half inches in depth. To this electrode was attached the negative pole of the battery, and the circuit was completed by the use of the membranous abdominal electrode. Seven treatments were given by the 1st of February, when menstruation appeared. The first four of these seven treatments were of the negative intra-uterine, the last three of the positive intra-uterine, variety. The highest current borne by the patient was fifty milliampères. The following menstruation was free from pain, but hæmorrhage was as excessive as ever. No change in tumour.

February.—Four treatments were given in this month, all negative intra-uterine, with no apparent result on tumour or amount of hemorrhage at next menstruation. No pain at menstruation.

March.—Two treatments, negative intra-uterine of about fifty milliampères strength. The hæmorrhage at the next menstruation caused considerable exhaustion, but was accompanied with no pain, nor was there any change in the tumour.

April.—Eight positive intra-uterine treatments were given, with a view of modifying, if possible, the excessive menstruation. The patient at this time was able to tolerate without discomfort a current of as high intensity as one hundred milliampères. The hæmorrhage of the next menstruation was

not materially decreased; the tumour showed signs of reduction—the uterus measuring sixteen centimetres. I was puzzled at this time to get some means of checking the exhaustive menorrhagia. I was convinced that the current tolerated was not sufficiently strong to produce the desired coagulating effect upon the whole surface of the endometrium in contact with the long internal platinum electrode. The current, in other words, was not concentrated enough at any one point of the electrode to produce its characteristic coagulating effect sufficient to check hæmorrhage. I, therefore, modified Dr. Apostoli's method by instituting a means of internal concentration. This was accomplished by devising my flexible internal electrode, with a given active surface, which, acting only on a comparatively small portion of the endometrium at one time, would enable me in several treatments to successively apply to the whole surface of the uterus a current of sufficient concentration to accomplish the desired results. The electrode adopted in this case was three millimetres in diameter, and had an active surface of four square centimetres, and the current used with this was at all times to be one hundred milliampères, passing for five minutes.*

May.—Five positive intra-uterine treatments were given in this month with my new electrode. At the first application the active portion of the electrode, the distal end, was introduced to the bottom of the canal, a gauge on the staff of the sound marked the distance to which the instrument entered the womb. At the next treatment the gauge was placed so that the active portion of the electrode would just reach the point acted upon by the former treatment. The same principle was carried out until every portion of the canal had been operated upon by the concentrated current. Five treatments were given before the next menstruation. The effect was magical. The flow lasted but three days. No pain.

June.—Four treatments early in month were given with the concentration electrode as the negative pole. The patient at this time left city for three weeks.

* See Medical Record, December 17th, 1887.

July.—Thirteen treatments were given, first six negative, seven positive. Tumour decreasing in size. Depth of uterus fifteen centimetres. Menstruation lasts four days and is normal in quantity.

August.—Five treatments, negative.

September.—Six treatments, four negative, two positive. Measurement of abdomen was made at this time, and over the most prominent part of tumour was thirty-seven and a half inches.

October.—Six treatments, all negative. Menstruation still remains scanty. Gain in flesh and improvement in general health.

November.—Nine treatments, three before menstruation and six following, all negative intra-uterine.

December.—Five intra-uterine negative treatments.

Although there has been a general gain in flesh since last measurement made, the patient measures two inches less, or thirty-five and a half inches. Depth of uterus fourteen centimetres, or five and a half inches.

Thus this patient in one year has gained in flesh, in strength; has normal menstruation instead of menorrhagia; and is perfectly free from pain. The uterus has been reduced from seven to five and a half inches in depth, and the mass of the tumour is reduced fully one-third in size. Patient still under treatment.

Case II.—Diagnosis: Myo-fibroma of the fundus of the uterus enlarging the whole organ.

Treatment: Thirty-two applications of galvanism.

Result: Cure.

Mrs. D——, age 24, married two years, wife of a mechanic, no children or miscarriages, presented herself for treatment March 23rd, 1887. Menstruation commenced at 14; at present irregular, and for five days excessive; is accompanied with headache, and is followed by severe neuralgic pains. Bowels constipated; hæmorrhoids; leucorrhœa, but not excessive; frequent and painful urination.

Objective symptoms: Vagina small. Cervix large and

patulous. Uterus large, with canal taking the direction parallel with the axis of the body, and measuring eleven centimetres, or a trifle more than four inches in depth. I was assisted by Dr. Wunismark in the treatment of this patient.

Thirty-two applications were given this patient by means of the concentration electrodes, with a current of one hundred milliampères at each sitting.

The effect of the treatment was noticed in the behaviour of the first menstruation, the flow having been modified in quantity and was without the slightest pain. The last treatment left the uterus seven centimetres in depth, normal in contour, with no evidence of a thickened fundus. The patient, who had previously been anæmic in appearance, is now full-blooded, in the best of health. Discharged cured.

Case III.—Diagnosis: Painful, bleeding fibro-myoma in anterior wall of uterus.

Treatment: Galvanism—thirty-nine treatments.

Result: Improvement in general health and reduction of the growth. Menorrhagia cured and pain at menstruation relieved.

Case IV.—Diagnosis: Large, painful, bleeding, myofibroma of the uterus filling the pelvis and abdomen.

Treatment: One hundred and fourteen applications of galvanism by Apostoli's method.

Result: Symptomatically cured, pain and menorrhagia relieved, tumour diminished in size, and patient restored to health.

Case V.—Diagnosis: Large, painful, hæmorrhagic, interstitial and subperitoneal fibroid growth of the uterus completely filling the pelvis and lower portion of abdomen.

Treatment: Thirty-eight negative intra-uterine, galvanic applications and eleven positive intra-uterine by Apostoli's method.

Result: Tumour reduced one-third, hæmorrhage modified, pain relieved.

Case VI.—Diagnosis: Hæmorrhagic fibro-myoma of posterior wall of fundus increasing uterus to ten centimetres in depth.

Treatment: Sixty-two applications of galvanism by Apostoli's method, by means of my flexible concentration electrodes.

Result: Growth absorbed, the uterus being reduced in depth to seven centimetres. Hæmorrhage relieved and patient completely restored to health.

Case VII.—Diagnosis: Large, painful hæmorrhagic myo-fibroma of the uterus filling pelvis and lower abdomen.

Treatment: Thirty applications of galvanism.

Result: Symptomatically cured. Uterus reduced in depth from nineteen centimetres to sixteen centimetres. Tumour markedly reduced. Menorrhagia cured, and great improvement in flesh and strength accomplished.

Case VIII.—Diagnosis: Myo-fibroma of the right horn of the uterus increasing the depth of the uterus to eight centimetres.

Symptoms: Excessive hæmorrhage, accompanied and followed by excruciating pain that remained for ten days following menstruation.

Treatment: Sixty-two applications of galvanism by Apostoli's method, modified by the use of my intra-uterine concentration electrodes.

Result: Cure.

Case IX.—Diagnosis: Large, interstitial, hæmorrhagic, painful fibroid growth extending to within two inches of the umbilicus and causing enlargement of the uterus.

Treatment: Thirty-seven intra-uterine galvanisms—twenty negative, seventeen positive.

Result: Reduction of growth fully one-third, but little relief of hæmorrhage or pain up to the present time.

Case X.—Diagnosis: Large, subperitoneal fibroid growth, about eight inches in its long, and four in its shorter diameter, with irregular contour attached to the entire fundus and posterior wall of a slightly enlarged uterus.

Symptoms: Distressing pressure upon rectum, bladder, and general complaint of heaviness in pelvis with "bearing-down," and difficulty in locomotion. Menstruation profuse and painful. General health impaired.

Treatment: Thirty-five applications of galvanism.

Result: Symptomatic cure.

Case XI.—Diagnosis: Interstitial, painful hæmorrhagic myo-fibroma of the anterior wall and fundus of the uterus, increasing its depth to eight and one-half centimetres or three and one-half inches.

Treatment: Thirty intra-uterine applications of galvanism.

Result: Benefited. Depth of uterus reduced to two and one-half inches, general health improved, menorrhagia modified, and pain relieved.

Case XII.—Diagnosis: Large, hæmorrhagic, interstitial and subserous fibroid growth of the uterus increasing the depth of the organ to fifteen centimetres or nearly six inches.

Treatment: Twenty-one applications of galvanism by Apostoli's method as modified by myself.

Result: General health restored, hæmorrhage checked, pain and pressure in pelvis relieved, tumour reduced one-third, and depth of uterus decreased to thirteen centimetres. Patient still under treatment.

Case XIII.—Diagnosis: Myo-fibroma of the anterior portion of neck and body of the uterus, three inches in diameter. Uterus not materially changed in depth, three and one-quarter inches.

Symptoms: Menstruation profuse, but not excessive; much pain during latter part of flow. Frequent and difficult urination.

Treatment: Sixty-one applications of intra-uterine galvano-negative treatment by my modification of Apostoli's method.

Result: Cure.

Case XIV.—This case was found, after a few treatments had been given, not suitable for this method of procedure. A submucous mass from the interior of the fundus of the womb gradually filled the uterine cavity, and when I discovered it was pedunculated. I advised her to return to her home and have it removed by a surgical operation. The operation was successfully accomplished by Prof. Mann, of Buffalo, N. Y.

Case XV.—Diagnosis: Myo-fibroma of fundus and posterior portion of uterus, accompanied with menorrhagia.

Treatment: Twenty-three intra-uterine applications of galvanism by Apostoli's method as modified by me.

Result: Cure.

Dr. P. S. HAYES.—The point has been well discussed, and there can be little further said. It occurs to me, however, that there may be a reason why the positive electrode used in the uterus is more hæmostatic than the negative, and that is on account of the cicatrix which follows the use of the positive electrode being more prone to contract; the cicatrix following the negative being like the cicatrix of a burn with caustic alkali. From my own experience in the use of electrolysis, I find frequently that, at the time of operating, there is a slight hæmorrhage, or, at least, an oozing of bloody serum more likely to follow the use of the positive than the negative pole, especially if any other than a plantinum electrode is used. The destruction of tissue around the positive pole is not nearly as great as that around the negative; the oxygen is separated about the positive pole and the acids are liberated, and I find the eschar which follows essentially the one produced by the action of the strong mineral acids on albuminous tissue. On the other hand, if the negative pole is used, we find that the destruction of tissue extends probably twice as far from the electrode. The appearance is entirely different, that from the negative pole looking very much as though it had been frozen, and the scar tissue which results from the use of the negative pole does not contract as firmly as does that which follows the positive, and it seems to me that this can be explained to a large extent by the chemical action which takes place along the electrodes. There are two, and, possibly, three factors present in this method of using electricity; there is the physical effect, due, of course, to the liberation of the gases around the electrodes; there is the chemical effect, due to the electrolysis or separation of the salts of the body into the acids at one pole and the alkalies at the other; and then there is the physiological effect, which we do not understand as well

as we do the chemical and physical effects. Whatever be the amount of chemical action which takes place around the pole that is in the uterus, an equivalent amount of chemical action takes place under the electrode that is placed on the abdomen, and almost invariably you will find an irritation of the skin, and you may possibly get a blister within the circumference of the electrode, so that on the second or third day you will find that it is difficult to apply the electrode where it was first applied. That the electricity, as it passes through the tumour, affects the cell life is a question that has yet to be proven, and I think the determination of the matter can be considered almost entirely due to the peculiar chemical action which takes place around the electrode.

Dr. E. J. DOERING.—I would like Dr. Martin to make an explanation about the strength of the current which can be used. There seems to be considerable difference of opinion among gentlemen in various parts of the country.

Dr. FRANKLIN H. MARTIN.—I am much gratified with the complimentary remarks made by the different gentlemen of the Society in the discussion of Dr. Doering's question. It is a difficult one to answer in the time I have at my disposal, but I would say briefly that with the means of concentration that I have adopted in my intra-uterine flexible electrodes, a current of from fifty to one hundred milliampères is all that is necessary in order to obtain all the benefits of this treatment. Without these electrodes, however, and by the original Apostoli method, I have employed currents ranging from one hundred to one thousand milliampères, and this without any detrimental effects.

TRANSACTIONS OF THE GYNÆCOLOGICAL SOCIETY OF CHICAGO.

Regular meeting, Friday, June 29th, 1888.

The President, HENRY T. BYFORD, M.D., in the Chair.

Sarcoma of the Ovary with Half-twisted Pedicle removed by Autopsy. By Dr. DANIEL T. NELSON.

He said:—I have a specimen here, the interesting points of which will be brought out in the history. This was a

post-mortem operation, but it demonstrates, I think, that sometimes surgical interference may be the better course when the patient's condition is nearly or quite hopeless. It is better for us at least to make an exploratory incision and arrive at a clearer diagnosis, that will possibly enable us to do something for the life of the patient, than to pursue an expectant course. It would seem as if this patient might have been saved had an operation been attempted early enough; probably she was not seen by any physician in regular attendance early enough to have insured her life by operation, still there will always be a doubt in regard to that.

I first saw the patient in consultation several days before she was taken to the hospital. She was a patient of Dr. J. E. De Wolf, of Englewood, whom I invited to be present to-night, but, unfortunately, he had a professional engagement. She was taken to the Women's Hospital, but operation was delayed from one day to another, waiting for her to improve in conditon, which she never did, and we have the tumour here by post-mortem removal. Her history is very scant, and yet some points in it are of interest, and will raise queries that I trust some of you will be able to answer.

Mrs. M. entered the Women's Hospital June 7th, 1888; occupation, housewife for many years; age at puberty, twelve; age on entering the hospital, thirty-nine. She was born in America of French and German parents, had been twice married; the first time seven months, the second time seventeen years. She was the mother of nine children, one by her first husband and eight by her second. After the birth of her last child, seven years ago, she did not menstruate for four years; since that time there have been irregular menstrual periods. It is so stated in the history, and yet I think we should rather say there were hæmorrhages from the uterus during these past four years. One year ago she noticed a fluid discharge from the rectum. This is a nice question in pathology, to my mind. She gave evidence of some inflammatory process in the right ovarian region—tenderness, soreness, some elevation of temperature, was confined to bed for

a time, and there was a sudden discharge of a considerable quantity of blood. Such quantities are never rightly estimated, but the amount was guessed at by the patient at more than a pint, and supposed by her to have passed from the rectum. Perhaps that was not correct; at all events, after that bloody discharge, she was relieved of the swelling, the tenderness, the inflammatory process, whatever it was, and resumed her ordinary duties. Some time afterwards, but unfortunately the record does not say how soon afterward, she began to suffer from swelling in the same region, that continued up to her death. There was constant soreness in the right inguinal region; three months ago the abdomen began to enlarge and she to gain in flesh, strength, and vigour, so that her attending physician, without making a local examination, and especially her neighbours, supposed she was pregnant. She felt comparatively well until four weeks previous to entering the hospital, when she began to suffer severe pain, tenderness in the right inguinal region, and there was evidence of some kind of tumour. On going to bed with her last illness, about a week before she entered the hospital, her physician became satisfied that there was something more than pregnancy, that there was inflammation of some type. Some days before she entered the hospital I saw her in consultation, and advised a removal to the hospital, in the hope that there might be some kind of an operation for her relief. On entering her temperature was 100⅘° F., pulse 104. The following day the temperature was 100⅘° F., pulse 132; the following afternoon the pulse was 132, temperature 100° F. and a fraction. On the morning of the fourth day the temperature ran down to 99½° F., and the pulse to 119. Possibly an operation might have been performed then, and her life saved, but a more convenient and better time was sought for, that never came. There were the usual evidences of peritonitis, and death in the usual way followed. When she first entered the hospital her bowels were moved, but not afterwards; vomiting came on the third day, but passed off on the fourth, when probably an operation could have been

performed with the possibility of saving life. She died on the sixth day after entering the hospital, and a few hours after death a post-mortem examination was made and this tumour removed. The appearance is somewhat changed now, but yet it presents fairly well the appearance at the time of the autopsy. You notice the dark, venous, congested appearance of a portion of the tumour. This was the anterior portion as it presented against the abdominal wall, very slightly adherent; no adhesions from old inflammation, either to omentum or other structures, but *a half-twisted pedicle.* The pedicle has been tied in such a way as to retain that appearance as much as possible. Here we have the broad ligament that is simply half-twisted and tied in that position on purpose. The evidence of completely twisted pedicle and death of the tumour were not present. There was simply an increase in size resulting from the congestion, but no sloughing, no death of the part—a slow, inflammatory process had taken place in the tumour and subsequently in the peritoneum, that was the cause of death. The obstruction of the bowels, I believe, was due to the peritonitis, and not to pressure from the tumour. It has not been my privilege to see a patient with a tumour and twisted pedicle, but it seems to me I could have recognized it; but this being only half-twisted, the circulation was impeded, not stopped. The tumour has been examined by Dr. Frank Carey, and the report is sarcoma. There was, so far as I saw, and I made a rather hurried examination, no evidence of the disease extending to other organs; there is no evidence of it in the pedicle; there was no evidence in the glands or intestines or other structures adjacent, so it seems as if it could have been entirely removed if the operation had been performed during the life of the patient. The uterus was a little enlarged, but no other evidence of disease about it. I made a diagnosis of malignant tumour, without being exactly certain as to its nature, but it seemed to me malignant on account of its rapid development and the age of the patient. I did not regard it as a uterine tumour, as the uterus was movable and the tumour seemed to

be separate from it. Within the abdominal walls there was a considerable amount of ascitic fluid, so that the abdomen was very tense, and it was difficult to say whether or no the tumour could be moved readily within the abdominal walls. I was unable to say whether or no there were adhesions, but from the ascites I hoped not.

Dr. ETHERIDGE.—The doctor said that if the pedicle had been completely twisted he could have determined it. I would like to ask how?

Dr. NELSON.—The evidences of acute inflammation would have been much more rapid and severe, also the appearance of shock. In other words, the patient would be something in the condition of one with an internal hæmorrhage, there would be evidence of greater disturbance that would come on suddenly after exercise, while in this case there was no sudden beginning of the evidence of inflammation, it came on gradually.

Dr. ETHERIDGE.—Did you diagnose a solid tumour?

Dr. NELSON.—It seemed to me that it was; there was considerable fluctuation and ascitic fluid, but it seemed to me a solid tumour, and that was my reason, together with the age of the patient, for believing that it was malignant. I supposed it was carcinoma and not sarcoma. I would like to ask whether that hæmorrhage, indefinitely described as from the rectum, could by any possibility have been the result of a congested condition of the tumour that was freed by an opening through the Fallopian tube, the pedicle having been untwisted, and whether the attack a year or more ago was similar to the one she died of, only the pedicle was more twisted this time, so nature could not relieve herself in this way.

Dr. ETHERIDGE.—Was the rectum examined?

Dr. NELSON.—It was not.

Dr. FENGER.—Dr. Nelson remarked that there was some ascites.

Dr. NELSON.—Yes, sir.

Dr. FENGER.—As a rule, under other circumstances, malignant tumours have as one of their main characteristics invasion of the surrounding tissues, and, consequently, adhesion

and inflammation enough to bind the tumour to the surrounding organs. But we know that in sarcomas or carcinomas of the ovary, it is common to find, as in this case, no adhesions. This fact is probably explained by the early setting in of ascites, as we know that the presence of fluid, ascitic fluid, saline solution, &c., in the abdominal cavity, helps to prevent adhesive inflammation by keeping the tumour away from the loops of intestine.

Dr. HENRY T. BYFORD.—I examined the patient once, in life, and was present at the post-mortem examination. I satisfied myself that the tumour was not connected with the uterus, for, although pressing upon the tumour moved the uterus, yet lifting the tumour did not. The course of the disease appears to have been, first, the twisting of the pedicle, then venous congestion, bursting of small blood-vessels, rapid distension and inflammation of the tumour, especially upon the side that we now see to be black. The case was not one of ordinary peritonitis; there was not much tenderness, except when the tumour was directly pressed upon. Intermittent attacks of partial obstruction of the bowels, due, undoubtedly, to the presence of this heavy tumour, hastened her death.

Dr. CHRISTIAN FENGER presented the following specimens:

FIBRO-CYSTO-SARCOMA OF THE UTERUS.

This specimen was removed by laparotomy from a woman of 35, that had a tumour the size of a child's head, immovably connected with the uterus at the fundus, and also two small myomas that could be felt through the vagina. The large tumour showed fluctuating places on the surface, by palpation through the abdominal wall, and I concluded that it was an ovarian cystoma, either located in the broad ligament or sufficiently adherent to the uterus to make them move together. At the operation I found it to be a cysto-fibroma, or fibro-cysto-sarcoma, subperitoneal, but attached by the broad base to the uterus at the fundus. After temporary elastic constriction around the cervix, the tumours were enucleated, and as the

uterine cavity was not opened, I united the wound of the wall of the uterus with buried step sutures, deep and superficial, and a final continuous suture along the inverted borders of the peritoneum.

At the close of the operation, all hæmorrhage had apparently stopped, consequently I did not drain. In the course of the first week some fever set in, and on the tenth day I reopened the lower border of the wound, and evacuated about three to four ounces of blood mixed with pus, from a cavity surrounding the body of the uterus. The evacuation and subsequent washing out and drainage did not have much influence on the patient's condition; the fever continued, she had a large gangrenous bed-sore over the os sacrum and died six days later, in the third week after the operation. The autopsy showed no peritonitis, and the cavity with the accumulation of blood and pus was found entirely separate from the general peritoneal cavity. On examining the uterus, I found, as you see here, surrounding the line of the uterine wound, an island of gangrenous tissue including the wound and a square inch or more to each side. This gangrene explains the persistence of fever and sepsis, notwithstanding the evacuation and drainage.

The large tumour has, you see, a smooth surface. On the cut surface in some parts, there was an appearance of myoma, in other places, islands of softer tissue looking like myxoma or sarcoma, and in other parts, cystic cavities. These cysts have not the usual shape and appearance of cystomas, but are irregular, triangular, or longitudinal sinuses, the walls of which are not smooth but trabeculated, so as to give the appearance, as Dupuytren describes it, "similar to the walls of the ventricles of the heart."

I shall here make a few remarks on fibro-cystomata of the uterus, because they are comparatively rare, the whole number described in the literature not being much above one hundred. Fibro-cystomata are, as the name indicates, forms of fibromata or myomata, and it is a comparatively rare change in the pre-existing elements of these tumours that gives them the additional characteristics of cystomata.

We distinguish between the following varieties: myxo-myoma, as described by Virchow, characterized by œdema of the interstitial tissue, and by the fluid in the spaces containing mucin; consequently it is something more than a simple œdema of the myoma. Spread islands of embryonal cells are also proof of a more active process, terminating in myxomatous or even sarcomatous tissue. Besides the œdema in the insterstitial tissue of the myoma, we find œdema and atrophy of the muscular fibres, isolated fibres or their débris mixed with the fluid in the cavities. These cavities are of all sizes, from the microscopic, as shown on this slide, up to the size of a pin's head or walnut, and we even find cavities of enormous size containing several quarts of fluid. The cavities are lined with pavement-celled epithelium or rather endothelium, as you would expect, since they originate from dilated lymph spaces, or naked when the cavity is formed by the disintegration of muscular fibres. The cavities contain clear, colourless, or bloody fluid that often coagulates spontaneously when evacuated—a fact that Atlee pointed out as a differential diagnostic sign in contradistinction to the fluid from ovarian cystomas. A special form is described as fibro-myoma lymphangiectodes, by Leopold. Distinctly different from this is the myoma teleangiectodes sive cavernosum of Virchow, with multiple cavities from the size of a millet-seed to that of a pea, communicating with the blood-vessels and consequently containing pure blood. These tumours are found to enlarge during menstruation (Virchow) and on auscultation a bruit is heard (Péan).

As to the place of development, the great majority are subperitoneal. Of the seventy cases gathered from the literature by Heer, sixty-three were subserous, five interstitial and only two submucous tumours. They sometimes attain an enormous size, weighing twenty-nine, forty, and in one instance even eighty-one pounds.

The cysto-fibromata are most often found between the ages of thirty and fifty. The symptoms are in the main, of course, the same as those of common myomata and fibro-

mata. Uterine hæmorrhage is rare because, as before mentioned, they rarely develop close to the mucous membrane. A more characteristic symptom is a sudden enlargement, probably from acute increase in the size of the cysts or from intracystic hæmorrhage. The spontaneous coagulation of the fluid would be a valuable symptom if it was constantly found, but in about seventy cases it was noted in only eleven (Heer). It might, however, in reality be more frequent, since in a number of cases it might not have been noticed (Gusserow). The lack of vitality shown by the tendency to local gangrene is also somewhat characteristic of these tumours. Thus Grammaticati, as stated by Gusserow, saw a myoma the size of a child's head, located in the wall of the cervix, undergo superficial necrosis followed by sepsis and death.

It is rather noteworthy that a correct diagnosis was rarely made. They were almost always taken for ovarian cystomas, and a number of them were punctured. Puncture, however, in this form of cystoma is far more dangerous than in other cystomas, as shown by Leopold, who found that, as a consequence of puncture, ten patients out of eleven died. McGuire, therefore, is right in asserting that exploratory laparotomy is less dangerous than puncture.

The treatment should be early extirpation, because of the probability of rapid enlargement, the danger of puncture, the liability to gangrenous or septic charges, and thrombosis of the vessels in and around the tumour. Gusserow gives a series of forty-one laparotomies with twenty-two recoveries, the cause of the high mortality being the necessity of the removal of the uterus in some of the cases. Occasionally the operation cannot be finished; thus, according to Gusserow, in thirty-eight cases, seven were unfinished, and of the seven, six patients died. That an exact diagnosis, with a definite premeditated plan of operation, is of extreme importance, is shown by Gusserow, who out of eleven cases described in the literature, reported nine recoveries.

A few words about uterine sarcomata, inasmuch as the tumour here presented is a mixed form of cysto-fibroma and

sarcoma. In the uterus we distinguish between circumscribed and diffused sarcoma, the former originating in the muscular wall of the uterus, the latter in the mucous membrane. The circumscribed uterine sarcomas are of the most interest to us in this connection, as they stand in near relationship to fibro-myomas and fibro-cystomas. They form, usually, round, circumscribed, harder or softer tumours, looking like, and developing in the same places as the fibro-myomas, and so similar to these that we must class the relapsing fibromas of Paget among the sarcomas. But besides more or less typical fibrous or muscular cells, here we find islands of short, spindle-shaped, round or polymorphous cells, or islands of myxoma tissue; in general, a more vivid cell-formation than in fibromas and myomas; and we further find in the same tumour in different places different forms of cells. So predominating, however, are fibroma or myoma tissue cells that Schröder regards it as a law that the circumscribed sarcomas are always formed by transformation of fibromas. According to Gusserow, the transformation of fibromas into the mixed form of fibro-sarcomas, myxo-sarcomas, and cysto-sarcomas is so rare that the literature shows very few well-observed cases of this kind. By examining the microscopic slides that I exhibit to-night, we find, in some portions, apparently typical myo-fibroma tissue, without or with dilated lymph spaces, in which we find granulated matter containing loose or isolated muscular cells; in other places, islands of typical myxoma tissue; here and there islands of embryonal cells; in another part of the tumour, territories of short, spindle-shaped cells, large and with oval or round nuclei; in other words, islands of unmistakable sarcoma tissue; and finally, places of common typical, round-celled sarcoma tissue.

As to the age in which fibro-sarcomas of the uterus are found, there is this difference from the cysto-fibromas that, although they both are most common between the ages of thirty and fifty, the sarcomas are still common between fifty and sixty, while the cysto-fibromas, as we have seen, stop at the age of fifty.

As regards treatment, the sarcoma is a malignant tumour and needs more extensive removal or radical treatment than the benignant cysto-fibroma. The removal of subserous or interstitial fibro-sarcomas by abdominal supravaginal extirpation and extra-peritoneal treatment has often been followed by a growth of sarcomatous tissue in the cicatrix in the abdominal wall. The abdominal total extirpation of the uterus can hardly be said to have lost much of its dreadful mortality of about seventy per cent, from the time of Freund's first operation till now.

In the treatment of this case, the following suggestion occurred to me—a suggestion which was not carried out because of the patient's death. I should operate as I did, enucleating the subserous tumour, and if the uterine cavity was not opened try intra-peritoneal treatment of the stump. After recovery from this operation, if the microscopic examination of the tumour proved it to be a fibro-sarcoma, I should follow, as soon as the patient's strength would permit, by vaginal extirpation. In the rare cases in which the size of a diagnosed circumscribed uterine sarcoma or fibro-cystoma will permit of vaginal extirpation, this operation is, of course, the only one indicated.

The two other specimens are not strictly gynæcological, as they occurred in men. However, they had this in common with gynæcology that laparotomy had to be made.

Colloid Carcinoma of the Cecum.—This specimen is a tumour of the cecum, a so-called colloid carcinoma. The patient was a man of about forty, in whom, for about six months, an increasing tumour had developed in the middle of the abdominal cavity. When I saw him the tumour was of the size of the head of a child of four, was somewhat movable from side to side and up and down. There were never any disturbances from the side of the intestines, but emaciation and considerable pain. I thought it a tumour of the omentum on account of its mobility, also that it was malignant because it was hard, nodular, and of rapid growth, but I did not think of the intestine being the seat because there were no symptoms.

When the abdominal cavity was opened, I found this large nodulated tumour, with a great many adhesions to the omentum and some to the intestines, and, finally, having separated these and applied a great many ligatures, when I got the tumour isolated and out through the abdominal wound, I found the ileum passing into one side of the tumour and the ascending colon coming out of the other side. I then divided the ileum and ascending colon two inches away from the tumour, detached and ligated the mesentary, and, after the removal of the tumour, closed the ileum and ascending colon in the usual way by invagination and suture, and made an anastomosis between the lower end of the ileum and upper end of the ascending colon by means of Zenn's decalcified bone plates. The territory of approximation was covered by an undetached omental flap. I preferred this operation to circular resection or implanation of the ileum into the colon, because of the shortness of the plate operation as compared with the others. The patient lived four days, was able to take some liquid nourishment, had no vomiting, no tympanites, showed no symptoms of sepsis or peritonitis, but gradually became weaker and died. The autopsy showed no peritonitis, the ends of the upper and lower bowel were closed, as you see in this specimen, the closed ileum and closed end of the ascending column, and at a distance of two and a half inches the anastomosis covered with the omental flap which did not adhere. The peritoneal surfaces between the plates are perfectly united, allowing of no escape of liquid or air. The passage between the ileum and colon is perfectly free, as you see after opening the opposite wall of the intestines. The tumour shows at this point the ileum entering the large, irregular cavity containing some liquid fæces slightly tinged with blood, and at the upper end of the cavity is the ascending colon. This enormously thickened wall of the cavity, one and a half to two inches in thickness, is the carcinomatous intestinal wall, the cut surface presenting the characteristic gelatinous appearance of colloid carcinoma. This form of carcinoma has as its characteristics, in distinction from other

carcinomas, colloid degeneration of the cells, causing them to enlarge, meet together, and form this transparent gelatinous substance. While we do not recognize a colloid carcinoma as distinctly different from carcinomas in general, as we know that partial colloid degeneration is common in all carcinomas of the intestinal tract, clinically, we recognize the extremes of this degeneration as a distinct form, characterised by its enormous size, and not uncommon in the stomach, large intestine, and peritoneum. In the peritoneal cavity there were no secondary tumours, nor were the lymph glands of the mesentary invaded. This is what we should expect, as this colloid carcinoma is, as a rule, relatively benignant, with little tendency to the invasion of distant tissues or organs.

The death of the patient I ascribed to the fact that when the vitality has been lowered to a certain point by malignant tumours, without or with functional disturbances of vital organs, the organism loses its power to withstand more than a certain amount of operating, and death will follow from the yet unexplained exhaustion, in spite of the absence of all the common well-known fatal complications.

Double Carcinoma of the Colon.—The third and last specimen is from a man between forty and fifty, who had suffered terribly from difficult passages from the bowels for a number of months. Finally a small, almost immovable tumour appeared to the right of the umbilicus, and later on distention of the small intestines with pain and vomiting. Every half-hour or hour there would be a paroxysm of peristaltic contractions with excruciating pain. He finally asked to be relieved at any risk. On account of his extreme emaciation and weakened condition, I thought it out of the question to attempt extirpation, and resolved to try to relieve him by means of anastosmoses between the intestine above and below the stricture. Laparotomy revealed the tumour to be a carcinoma of the ascending colon; consequently I united the lower part of the distended ileum with the empty transverse colon five to six inches away from the tumour. The patient did not get much relief and died ten days after the

operation, growing gradually weaker, as in the other case. The autopsy showed no peritonitis, the omental flap was partially adherent to the intestine, the peritoneum between the plates united, but at the distal end of the plate, in the colon, an island of necrosis of the intestinal wall from pressure-atrophy caused by the plate. Thus in this case perforation of the intestine was only a question of a short time. The carcinoma of the ascending colon, as the specimen shows, is three inches long and has caused almost complete occlusion of the bowel. The reason why no relief followed the operation was found below the anastosmosis in the splenic flexure of the colon where a second carcinoma had developed, causing as you see almost complete obstruction of the colon. This second carcinoma was not discovered during the operation, as it was hidden high up, under the spleen. The emptiness of the transverse colon, together with the rarity of a second carcinoma, was the cause of my not suspecting its presence. If it had been discovered, the anastomosis would have been made between the ileum and the sigmoid flexure of course. The mortality from even palliative operations upon the intestines is large, because, as a rule, the patients do not come to us for operation until they are exhausted by serious intestinal disturbances, usually of long continuance. This is so generally the case that collapse, even after a short operation, is of frequent occurrence.

Zenn's operation of intestinal anastosmosis with the plates does not take any more time than the abdominal operation for artificial anus. The last operation here mentioned was of thirty-eight minutes' duration, from the time of the incision in the abdomen to the dressing of the abdominal wound.

Dr. ETHERIDGE.—I would like to ask Dr. Fenger if he thinks that, if he had drained the first case, he would have saved her from any gangrenous affection?

Dr. FENGER.—That is possible.

Dr. ETHERIDGE.—I would like to ask Dr. Fenger why he did not do vaginal hysterectomy.

Dr. FENGER.—Because the tumour was too large.

Dr. ETHERIDGE.—If you had a similar case, would you not, after liberating the tumour through the abdomen, make a vaginal hysterectomy?

Dr. FENGER.—No; not at the same time, because I think that is dangerous—too much operating.

Dr. ETHERIDGE.—It seems to me that the combination of the two in an operation that, if not prolonged too much, increases the chances of the patient to live. You would have magnificent drainage that way.

Dr. FENGER.—Is not that a combination of abdominal and vaginal hysterectomy?

Dr. ETHERIDGE.—Well, cases get well after hysterectomy, even where the abdomen is opened.

Dr. FENGER.—That is Freund's operation.

Dr. ETHERIDGE.—Freund's and Schroeder's.

Dr. FENGER.—What is the difference; is it not the combination of laparotomy and vaginal hysterectomy that brings the mortality up above sixty per cent.?

Dr. ETHERIDGE.—Have the two been done enough to make such a mortality as that; have enough cases been recorded to say that there is a mortality of sixty per cent?

Dr. FENGER.—What is the difference between that and Freund's operation?

Dr. ETHERIDGE.—You have better drainage in Freund's operation.

Dr. FENGER.—From what I think now I would be afraid of that combination.

Dr. ETHERIDGE.—I have often thought if I should have a case of tumour of the uterus to remove and the adhesions were not enough in the pelvis to fix the cervix immovably, I should make the operation through the abdomen of removing the tumour, put an elastic ligature down as far as possible, then immediately remove the cervix by vaginal hysterectomy, depending upon the forceps for control of the hæmorrhage. In that way we could get a magnificent drainage through the vagina.

Dr. FENGER.—Time would first have to show if such a combination as that would bring Freund's mortality down.

Dr. ETHERIDGE.—I believe a great many cases of fatal termination of supra-vaginal amputation of the uterus is from lack of drainage, and if after the amputation the balance can be taken out through the vagina, then we can close the abdomen and have the drainage through the vagina. Of course, that could not be done if there were universal adhesion through the pelvis.

Dr. FENGER.—Frank, of Cologne, who, criticised so much about his ten cases of enucleation, believed that he could peel off the uterus and leave the peritoneum. If that can be done in all cases, which I consider impossible, it can be done much more easily when there are adhesions all around the uterus. In fact, one of Czerny's first operations for uterine sarcoma was done in that way—vaginal enucleation without opening into the peritoneal cavity.

Dr. EARLE.—Suppose these operations had been successful, how long would they have prolonged the men's lives?

Dr. FENGER.—The man with double carcinoma would die in due course. In the other case—the colloid carcinoma—it is well known that these carcinomas belong to a comparatively benignant type, and there is nothing against the possibility of a radical cure.

Dr. NELSON.—I wish to remind Dr. Fenger that he has not explained the cause of gangrene.

Dr. FENGER.—I will take into consideration first the way in which the wound surface is treated, namely, by a double row of sutures, deep and superficial. That is not enough to cause gangrene. Then comes the liability of these tumours in general to local death, and then comes sepsis. Sepsis plays an important part in the etiology of gangrene, and I do not doubt that sepsis in the collection of blood around the uterus was a main factor in this case.

Dr. NELSON.—Might there not be an explanation through the nervous system by the destruction of some important nerves?

Dr. FENGER.—The nervous system is far away. We know so little about gangrene by the destruction of the nerves that

we are not able yet to take that up as a factor of much prominence. We hardly know of any gangrene from nervous destruction alone. The decubitus in paralytic patients is a mixture of traumatism and lack of innervation. The same may be said of the destruction of the joints in locomotor ataxy. There is always an element of injury, consequently something more than mere lack of innervation. In this case, I do not believe that the question of nerves would play any part.

Dr. NELSON.—Could there be a sufficient spasm of the muscular structure left behind to destroy the nutrition of the part?

Dr. FENGER.—Contractions can, as we know, sometimes make a fibroid die.

THE PRESIDENT.—I intended to exhibit for Dr. William H. Byford, a uterine cysto-myoma possessing all the characteristics of the one just presented by Dr. Fenger, but found today that the specimen had been allowed to spoil. It was pedunculated, slightly adherent in places, trabeculated within, and quite full of collections of serum that coagulated upon exposure to the air. The patient was operated upon two weeks ago and is passing through a rapid and easy convalescence. The pedicle was treated extraperitoneally, and the abdominal cavity closed without drainage.

THE PRESIDENT exhibited

A SUBSEROUS FIBRO-MYOMA OF THE CERVIX UTERI AND AN OVARIAN CYST.

I have here a subserous fibro-myoma of the cervix uteri and an ovarian cyst which were removed three weeks ago from the same patient by vaginal section. I made first an exploratory incision in the recto-uterine cul-de-sac, and got behind the tumour, but could not get over it into the free peritoneal cavity. I then separated the uterus from the bladder, reached over the fundus, and ascertained the relation of the parts. I then pulled down the cervix and ligated the

broad ligaments, from below upwards. The capsule of the tumour was covered by a thin layer of peritoneum, except where it was imbedded in the cervical walls.

The interesting point was the size of the tumour, its relations, and the apparent impossibility of getting it out without taking the whole uterus. Although the operation was difficult, its severity did not seem great, for the patient is getting along very much the same as after a normal confinement.

DERMOID CYSTS OF THE OVARY.

I have here a dermoid tumour consisting of two cysts removed five weeks ago. The tumour was about the size of a child's head, and filled with chocolate colored fluid and hairs. Some of the fluid escaped and flowed into the peritoneal wound. The peritoneal cavity was flushed with water and drained. The recovery was the same as a favourable case of oöphorectomy. The other ovary had undergone cystic degeneration.

SPECIMEN FROM TAIT'S OPERATION.

Here are four ovaries showing different stages of cystic degeneration. This pair was removed from a young girl who had been treated without benefit for the last three years. She was steadily losing ground. The diagnosis was ovaritis. They were removed about nine days ago.

Here is a pair removed four days ago. They commence to show the appearance of some of the larger tumours. The patient has been an invalid for seven years and was supposed to be losing her mind. Both are doing well.

Dr. ETHERIDGE.—In performing vaginal section did you draw the fundus forward?

Dr. BYFORD.—I did, in order to reach over it for the purpose of exploration; but I then released it, drew down the cervix, and ligated the broad ligaments from the base up. I

prefer ligatures, because they allow the parts to go back to their natural position.

Dr. ETHERIDGE.—How long does it take to complete the operation when ligatures are used?

Dr. BYFORD.—It took me a little over two hours, including the preliminary disinfection and dilatation of the vaginal orifice and the dressings afterwards. I do not time my operations, but suppose it took me between twenty and thirty minutes to tie the broad ligaments and cut out the uterus. The causes of delay in this case were the almost complete obstruction of the vagina by the tumour so as to prevent easy access to the broad ligaments, and also the natural rigidity and narrowness of the vagina in a virgin of forty-two. But as I perform the operation, time is not an important factor—it is even less so than in cases of trachelorrhaphy or perineorrhaphy, in which hæmorrhage is more abundant. The cases get along as well after hysterectomies lasting two hours as those lasting one hour.

ROYAL ACADEMY OF MEDICINE IN IRELAND—SECTION OF OBSTETRICS.

President—JOHN RUTHERFORD KIRKPATRICK, M.D., F.K.Q.C.P.

Sectional Secretary—ANDREW J. HORNE, F.K.Q.C.P.

Friday, May 25, 1888.

The PRESIDENT in the Chair.

Myxoma of the Chorion, or Vesicular Mole.

Dr. MORE MADDEN read a paper on myxoma of the chorionic villi, or vesicular mole, as a practical contribution to the study of the still obscure pathology of embryonic death in the uterus. Having first described some cases of myxoma of the placental chorionic villi recently met with in his hospital practice, the writer proceeded to point out the general importance of placental disease as a most frequent cause of intrauterine death and abortion. It would be superfluous in this

abstract to dwell on the importance of this still neglected field of investigation, or to do more than observe that being, as it is, the sole medium of vital communication between the fœtus *in utero* and the mother, any deviation from the normal condition of the placenta by which its development may be arrested and its physiological action impaired or perverted must be of serious consequence either to mother or child or to both. Amongst the diseases of this organ affecting the mother as well as the child are inflammations of the placenta, especially chronic or subacute placentitis, leading to morbid adhesions between the afterbirth and uterus, and occasionally giving rise to the two most serious complications of parturition—viz., *post-partum* hæmorrhage and inversion of the uterus. Another placental disease of no less importance to the mother than to the child is congestion, sometimes resulting in hæmorrhage or placental apoplexy; whilst amongst the placental diseases which chiefly affect the fœtus by impairing or destroying the structural integrity of this organ are œdema, atrophy, and hypertrophy of the afterbirth, and the various forms of degeneration—fatty and calcareous; and, above all, that which was met with in this case—viz., myxoma or cystic degeneration of the placenta, or chorionic villi. In his own practice he had now met with six cases of this disease, the infrequency of which appears from the following table :—

Authority	Cases admitted into the Rotunda Hospital	Cases of Hydatidinous Disease reported
Dr. Collins - - -	16,654	—
Drs. Hardy and M'Clintock	6,634	1
Drs. Sinclair and Johnston	13,748	4

Thus it appears that in 31,036 cases admitted into the Lying-in Hospital there were only five instances of hydatidiform mole recorded, being in the proportion of 1 in 6,207 cases.

Vesicular disease of the placenta consists in myxomatous degeneration and abnormal development of the placental chorionic villi, either following or producing the death of the fœtus. In the "Dublin Obstetrical Transactions" Dr. More Madden had already related some cases of this kind. In most of these the hydatidiform mass was expelled from the

uterus in the fifth month of pregnancy. The symptoms of this disease can at first hardly be distinguished from those of ordinary pregnancy. If, however, in addition to the signs that usually denote the death of the fœtus, the patient experiences occasional gushes of water together with slight hæmorrhage from the uterus, lasting for a short time and recurring at irregular intervals, we may suspect the existence of vesicular disease in the placenta of a blighted fœtus. The expulsion of these growths from the uterus is generally attended with severe hæmorrhage. With regard to their origin, it would be useless again to review the countless theories that have been put forward at different times. For his own part, Dr. More Madden still adhered to the views he published several years ago, that in the vast majority of cases those growths originated in cystic degeneration of the chorion villi of a blighted ovum; but at the same time he also believed, although his opinion has been controverted by others, that vesicular growths, apparently similar to those resulting from chorionic disease, may in some exceptional cases also possibly be found *in utero* under circumstances that preclude their origin in embryonic disease. And in such cases Dr. More Madden holds that they probably originate in the ovary of an unimpregnated female from abnormal nutrition and perverted or monstrous development of a graafian vesicle, the ovum, when expelled into the uterus, there becoming adherent, and abnormally proliferating, until by its bulk expulsive action is occasioned.

In the way of treatment, Dr. More Madden knows of nothing that can be done to arrest the progress of the disease, but an attempt should always be made to prevent its recurrence by improving the general health of the patient by alteratives and ferruginous tonics, especially any of the saline chalybeate waters, such as Kissengen Spa, Tunbridge Wells, or Lisdoonvarna.

It has been recommended that we should bring about the expulsion of these so-called vesicular moles as soon as they are discovered. This, however, is clearly wrong practice;

for it is quite possible that only a portion of the placenta may be affected; or, as the writer has seen, the birth of a healthy living child may be followed by the myxomatous placenta of a blighted twin conception. Hence, even if this disease could be diagnosed at any time during the nine months of pregnancy, we should still let nature take her course, rather than by unnecessary interference run the risk of destroying a fœtus which experience has shown may possibly co-exist with the vesicular growth *in utero.*

Dr. HARLEY mentioned the case of a virgin who had those hydatiform moles expelled. He also mentioned the case of a woman forty years of age, who he believed was not pregnant, but from whom a hydatidiform mass was expelled.

Dr. MACAN said he could not agree to the statement that there had been no conception.

Dr. MORE MADDEN briefly replied, and

The section then adjourned.

REVUE DES MALADIES DES FEMMES.

Artificial Dilatation of the Uterus as a means for evacuation of cysts of the Fallopian tubes. By J. BERRUTI.

Abdominal sections for the removal of diseased uterine appendages are becoming numerous, and however small the mortality may be, every operation implies a considerable amount of danger. Artificial dilatation of the uterus, followed by aspiration of the tubes, is fraught with less danger than removal of the uterine appendages, and offers, besides, the chance of the diseased parts resuming their normal condition, especially if fresh infection of them is prevented. Catheterization of the tubes has hitherto been an uncertain and dangerous proceeding. This procedure may, however, be made safe and effectual by resorting to artificial dilatation of the uterus in the first place, and curetting the uterine mucous membrane, especially that surrounding the uterine orifices of the tubes. Some days after the dilatation and

curetting, a uterine catheter is passed into the cystic tube and its contents evacuated. Unfortunately the operation is not always successful if delayed too long; consequently to avoid the danger attending every abdominal section, catheterization must be undertaken before the cyst walls become too thick, or before the ulcerative process has extended too far. In any case, we are told, forced dilatation and curetting constitute an operation free from danger in the hands of a careful operator, and there will always be time to resort to salpingectomy if Walton's method fails.

ANNALES DE GYNÉCOLOGIE ET D'OBSTETRIQUE.

Cæsarian Section. By DELASSUS.

The author records a case of Cæsarian operation in a woman with a peculiar deformity of the pelvis. The operation was successful, and four months after the female was in good health. Several diagrams, which we are unable to reproduce here, help to elucidate the case. The deformity was most marked at the brim, the conjugate diameter of which measured 2¾ inches. The other pelvic measurements showed less alteration than the appearance of the pelvis would lead one to expect. The left half of the pelvis was roomy; a marked spinal curvature existed, and the pelvis appeared to be pushed upwards, forwards, and to the right. Rickets is said to be absent, the explanation of the deformity being that in early life the patient suffered from myelitis and had assumed the sitting posture for a long time. The author is unable to classify this pelvis amongst any of the recognised forms of deformities. The operation was performed according to modern rules. Ergotin was subcutaneously injected before the operation. Except for a small fistula in the lower part of the wound, recovery was uneventful.

Vaginal Hysterectomy. By S. POZZI.

We find in this article seven cases of vaginal hysterectomy recorded; one for fibroid uterus, and six for malignant disease.

Five of the six cases of cancer were completely cured, while the sixth died five months after operation.

M. Pozzi opens the anterior and posterior cul-de-sacs of the vagina in the usual way, and ligatures the broad ligaments with silk ligatures, instead of clamping them. Five of the malignant cases were squamous epithelioma of the cervix, the sixth being cylindrical-celled epithelioma. The one death which occurred resulted from shock the same evening after the operation. In this case anæsthesia had been prolonged and deep, and the kidney structure was greatly altered.

JOURNAL D'ACCOUCHMENTS.

Persistence of the Catamenia during Pregnancy.

By SAINT-MOULIN.

The subject was a primipara aged twenty-one years. Her periods were perfectly regular, and though her abdomen was gradually increasing, she suspected nothing, but continued to perform her household duties. One evening she was seized with violent abdominal pains, which were regular, cutting in character, and gradually increasing in intensity. Not knowing she was pregnant, but believing the pains were due to a disordered state of the intestines, a medical man was sent for, who diagnosed pregnancy and labour, and had the patient conveyed to a hospital.

Amenorrhœa followed by Pregnancy and Delivery.

In this case the catamenia had never appeared. The patient was a cook, twenty-four years of age, a well-built strong and healthy girl. At puberty she was slightly troubled with menstrual molimina, but after having had medical advice and becoming no better, she thought no more of the amenorrhœa. Believing she would never give birth to a child, she listened to the entreaties of her lover, and in time became pregnant by him. She was delivered at full term of a fine healthy child. The author does not attempt to give any explanation of these facts.

Psychoses following Operations upon the Female Genital Organs. By M. WERTH.

Werth records six cases of mental disease following operations upon the female genital organs. In all the cases melancholia supervened shortly after the operation. Twice melancholia followed total extirpation of the uterus and ovaries; twice after ovariotomy, and twice after removal of the appendages. Three of the patients completely recovered; in two there has been very little improvement, while the sixth committed suicide three and-a-half months after the operation.

BULLETIN DE LA SOCIÉTÉ OBSTÉTRICALE.

Fracture of the Symphyses Pubis during Parturition. By M. FAUX.

The patient was a primipara, æt. twenty-five. The pelvis was slightly contracted, especially at the conjugate, and the presentation was a vertex R.O.P. Tarnier's forceps were applied and the head was slowly but gradually extracted. On the head reaching the perinæum crepitus was distinctly felt by the operator, and was again perceived at the moment the head was born. It was shortly afterwards found that the symphysis pubis was fractured, and the sub-pubic tissues were bruised, œdematous and swollen. The fœtal head was normal in size, and showed no marks of violence. The child was dead, probably owing to the long duration of labour—forty-eight hours. The mother made a speedy recovery.

Tubal Pregnancy. By M. DOLÉRIS.

M. Doléris, at a recent meeting of this Society, showed the fimbriated extremity of the fallopian tube which he had removed. The tube contained a five months' fœtus. An operation was not undertaken until symptoms of rupture of the tube showed themselves. The sac containing the fœtus

was removed and left a large gaping cavity in the pelvis, which was not filled by intestines, owing to their being adherent higher up. There was considerable hæmorrhage. The result was fatal, the mother dying of shock shortly after operation.

NOUVELLES ARCHIVES D'OBSTETRIQUE ET DE GYNÉCOLOGIE.

Effects of Non-Oxygenation of the Maternal Blood upon the Fœtus. By CHARPENTIER.

A series of experiments have been carried out by the author to determine the effects of non-oxygenation of the maternal blood upon the fœtus. The experiments were carried out in two ways; in the first, the animal with its abdomen and uterus opened was placed in a warm saline solution, and the changes in the placental circulation watched; in the second, the mother was deprived of oxygen and on her death the condition of the fœtus in utero was observed. The results of these experiments may be shortly stated as follows: (1) When the maternal blood is slowly deprived of its oxygen, the fœtus succumbs before the mother. (2) When the maternal blood is suddenly deprived of its oxygen, the mother dies first, the fœtus surviving a few minutes longer. (3) If considerable quantities of oxygen were abstracted from the maternal circulation and the mother survived, the fœtus would die after some time. (4) Carbonic acid gas not seriously affecting the mother, has no effect upon the life of the child.

EDINBURGH MEDICAL JOURNAL.

Extra-uterine gestation. By A. E. MORISON, M.B., C.M.

Mrs. I., aged thirty, five para, the youngest child being three years of age. Two years previous to December 1887, she suffered from inflammation of the bowels. She was seen first on December 6th, 1887, when she complained of periodic

attacks of pain in the bowels. Her catamenial periods had always been regular, except in November when she missed a period. On December 13th there was a profuse hæmorrhagic discharge from the vagina, and impending abortion was suspected. No vaginal examination was allowed. The flooding and severe abdominal pains continued some days. On December 28th the patient permitted an examination to be made. "The uterus was enlarged, cervix soft and like a pregnant one. Behind the uterus is a swelling, tender on pressure. It is rounded and elastic, and extends upwards to a point, midway between the umbilicus and pubes. In front of it lies the uterus, the outlines of which can be clearly defined, distinct from, but closely connected with the swelling." Extra-uterine pregnancy was diagnosed, but an immediate operation was not considered advisable owing to the state of the patient's health. On January 3rd, 1888, the abdomen was opened by a median incision, and the tumour, covered by omentum, immediately came into view. Owing to adhesions it was found impossible to remove the cyst. The cyst wall was incised and stitched to the abdominal wall. The placenta was situated over the front of the cyst, and had been divided when the cyst wall was incised. Free hæmorrhage was checked by packing a sponge between the divided portions. On January 11th the condition of the patient was not satisfactory. About a pint and a-half of blood-stained offensive fluid was withdrawn from the sac. On January 25th hæmorrhage occurred. The patient was anæsthetised, the sac explored, and a two months' fœtus removed. From this time the patient gradually improved. The sac soon closed up, and the patient finally recovered.

The Cause of Head downward Presentation.

By JAMES FOULIS, M.D., F.R.C.P.Edin.

In a long and interesting article on the "Cause of Head downward Presentations in Pregnancy," the author concludes that the head downward position of the child in utero is the

necessary and ultimate consequence of the continued extension of the child's lower limbs against the most resisting parts of the uterine sac. The first cranial position of the child's head is the necessary and ultimate consequence of the continued extension of the child's lower limbs against the most resisting part of the uterine sac in its upper part, viz., that which lies in the right hypochondrium, after the child has assumed the head downward position.

THE AMERICAN JOURNAL OF OBSTETRICS.

Pelvic Peritonitis. By J. EASTMAN, M.D.

Inflammation of the pelvic serous membrane is more common than pelvic cellulitis, and is frequently overlooked. Pelvic cellulitis is frequently the result of a pre-existing pelvic peritonitis. Owing to the periodic movements and engorgements of the Fallopian tubes, the inflammatory process frequently spreads to other adjacent structures. The author follows Winckel in classifying perimetritis, perisalpingitis, peri-oöphoritis, pericystitis and periproctitis under the term pelvic peritonitis.

Adhesions are formed with neighbouring organs, and each recurring attack of inflammation extends these adhesions. The serum pouring out may form abscesses, or cause complete intestinal obstruction. Amongst the more important causes of pelvic peritonitis are noted, the brain-cramming of our school system, the eruptive fevers, especially in young girls. The action of gonorrhœa as a causative agent is overrated, though the author is aware of its importance. Induced abortion and means used to prevent conception, especially the use of cold water injections, are also important causes.

Intraligamentous Tubal Pregnancy. By J. EASTMAN.

Mrs. C., æt. thirty-nine, one para, nineteen years ago, suffered from intense pain and rapidly increasing abdominal enlargement since the cessation of menses at Christmas. An abdominal examination showed a tumour extending from the

pubes upwards to the right near the liver. Breasts not enlarged, slight discoloration of areola; no fœtal heart detected. Bimanual examination: uterus normal in size, lying forwards between tumour and pubes.

Abdominal section revealed a tubal pregnancy. The tube appeared to have originally been beneath the peritoneal fold of the broad ligament. The sac wall tore easily, and was a dark purple in colour; the placenta was attached to its anterior surface; but was not injured in opening the sac. After removal of the fœtus the tube and placenta were removed *en masse*. There was considerable hæmorrhage, which was arrested by clamping the neck of the sac, and ligaturing it with silk. The peritoneal cavity was washed out with warm water and a glass drainage tube placed in the lower part of the wound. This tube was removed on the fifth day, and the patient gradually recovered. The child, which is an eight months one, is doing well.

THE OBSTETRIC GAZETTE.

Galvanization of the Sympathetic for Ovaritis.
By HULBERT.

The author, by adopting this method of treatment, has desired to affect the general condition of the patient and not to benefit her locally only. One electrode is applied to the spinal column in the lumbar or cervical region, and the other to the diseased ovary through the vagina. The intensity of the currents have ranged from three to fifteen milliampères, stronger ones being unnecessary and in many cases dangerous. The author also advocates what he terms "direct galvanization of the ovary," one electrode being placed over the abdomen, the other to the ovary through the vagina. Some patients are unable to stand this last mode of treatment and are greatly benefited by sympathetic galvanization.

ARCHIVES OF GYNÆCOLOGY.

Paralysis and other Neuroses in Uterine Disease.

By T. H. McBRIDE, M.D.

Two cases are recorded by the author :—

Case I.—Patient married, had aborted when twenty-two years old. This was followed by menstrual pains and vaginal discharges. During the next four years she suffered from numbness of body and extremities; the affection increased during the catamenial periods. Two years later the muscles of the hands, especially the thumb muscles, began to atrophy and wasted to one fourth of their original size. There was also a fine tremor resembling paralysis agitaris. There was no anæsthesia. A vaginal examination showed a uterus displaced to the left side and fixed. It was enlarged, and the os patulous. Local treatment to the uterus and vagina was adopted, and massage and electricity used for the hands. The uterus soon resumed its normal condition, and the numbness and tremor disappeared and the hands soon regained their full power.

Case II.—A single lady, æt. twenty-two, was thrown from a carriage and injured her spine. At the same time she suffered from symptoms of uterine trouble. Later, pains in the left ovarian region set in, and she suffered from menorrhagia. Vomiting and other gastric symptoms next supervened, with occasional hæmatemesis; she became despondent, and suffered from headaches. On vaginal examination the left lateral version of the uterus was found, and was rectified by a specially made pessary; massage and electricity were employed, and local treatment to the uterus. She soon recovered, and when seen three years later still remained in good health.

Electricity in Gynæcology. By LAPTHORN SMITH.

The author is of opinion that all diseases of women are the result of disorders of the nerves of sensation, motion or nutrition, and that electricity in one of its three forms is of

great service in the treatment of these diseases. If the following rules be adopted, electricity is harmless and efficacious:—

(1) Never to make the patient suffer, and never to apply a stronger intensity than she can bear.

(2) Make the operations last long, and continue them until the appearance of a manifest sedation.

(3) Make, by means of the bi-polar excitor an intra-uterine application whenever possible, or a vaginal one in other cases.

Drainage Tubes after Ovariotomy. By C. E. TAFT.

The following rules for the use of drainage tubes after ovariotomy are laid down by the author:—(1) Always use glass drainage tubes in preference to all others. (2) A drainage tube should always be inserted when in doubt, and when certain conditions are present. (3) Non-perforated tubes answer every purpose. (4) Remove the contents of the tube at frequent intervals—every half-hour to three hours. (5) If a tube is used hæmorrhage is demonstrated. (6) Remove the tube when its contents become clear serum. (7) Too long retention of the tube results in a sinus which is at times difficult or impossible to close, and an increased liability to hernia is the consequence.

THE PITTSBURGH MEDICAL REVIEW.

Treatment of Chronic Cystitis in the Female.

By C. EMMERLING, M.D.

The terms "chronic catarrh" and "chronic inflammation" of the bladder, though considered by some to denote two essentially different conditions, in reality constitute two similar conditions. A short account of the pathology of the disease is given. In mild cases rest, regulation of diet, and general medical treatment effects a cure in a short time. In the more severe chronic forms, local treatment, carefully carried out, must immediately be begun. For this purpose, Fritsch, of Halle, irrigated the viscus by means of an india-rubber tube.

The author prefers a glass tube, with a rubber ring placed round it at the point indicating the length of tube to enter the urethra. To the other end of the glass tube is attached an elastic rubber tube, furnished at its far end with a funnel. When the apparatus is to be used, a warm solution of chlorate of potash, salicylic acid, or boric acid (2-5 grs. to oz.) is placed in the funnel. The funnel and tube are then raised, and the solution allowed to enter the bladder. When a sensation of fulness and a desire to micturate are experienced, the funnel is lowered, and the solution allowed to drain off. This process may be repeated several times at one sitting. At first the irrigation should be practised every few hours—later on at longer intervals. The glass tube is left in position for two or three days. At first the patient must maintain a recumbent position. Vichy water will be found beneficial. Cocaine, hyoscyamus, belladonna, and morphia, as suppositories, will help on the treatment and cure of the disease.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

A Plea for Early Operative Interference in cases of Obscure Pelvic Pains. By R. B. HALL, M.D.

An interesting article, read at the 1888 meeting of the American Medical Association. The author dwells shortly on the probability of many cases which were in older text-books described as cases of cellulitis, being in reality cases of salpingitis and pelvic peritonitis. For the relief of this condition, removal of the uterine appendages has been advocated and practised with markedly successful results. The operation was in the beginning opposed by many surgeons, but is now recognized as warrantable in certain cases, except by a few bigoted men. The chief objections to the operation are: (1) The difficulty of diagnosis in many cases. (2) It was said to unsex the patient. (3) The difficulty in separating the adhesions deep down in the pelvis.

In replying to these objections, the author points out that the difficulty in diagnosis is not so great as it appears, if the

symptoms and physical signs be carefully noted. It is perhaps, in the majority of cases, impossible to diagnose between hydro-, pyo-, and hæmatosalpingitis, but practically the differential diagnosis between these three conditions is a matter of small consequence, seeing that the treatment is the same for all. The author emphatically denies that the operation unsexes the woman and causes her to assume masculine features. The patient is certainly unsexed as regards her productive powers; but a woman with diseased conditions of both tubes, with chronic ovaritis and adherent tubes will be just as barren as one from whom both ovaries and tubes have been removed. That the operation destroys her sexual desire is contrary to all experience. "The changes in the person of the subject are no more marked after this than after the McDowell operation, and the disease requiring it calls for surgical interference just as urgently as does the existence of a large tumour." The objection to the operation on account of the numerous adhesions is now past; careful breaking down of these adhesions, ligaturing the larger bleeding points and the insertion of a drainage tube have overcome this objection. The objection of many surgeons in America to this operation is, in the opinion of the author, the result of hostile feeling on the part of some of a few leading operators in this country. Several cases illustrating the prominent symptoms of the disease and their entire removal by operation as recorded.

In conclusion, the author advocates the following plan of treatment. For twelve to eighteen months, try proper and constant care and treatment, which if not followed by more than temporary relief, should be followed by removal of the diseased organs.

Electrolysis in Diagnosis. By E. C. GEHRUNG, M.D.

From the literature on electro-therapeutics as well as from his own experience, the author concludes :—(1) That electro-puncture, especially if combined with drainage, &c., is a

curative agent for many tumours, as fibroids, cysto-fibroids, cysts of a great variety, and abscesses. (2) That electrolysis renders exploratory punctures comparatively harmless, and far superior to ordinary acupuncture with aspirator needles or the needles of the hypodermic syringe, which latter means have formerly been recommended to clear up a doubtful diagnosis.

BULLETIN GÉNÉRAL DE THÉRAPEUTIQUE.

On the Use of Subcutaneous Injections of Antipyrin and Cocaine in Labour. By FANCHON.

Following the example of some of his countrymen, especially M. G. Sée, Dr. Fanchon has tried the effect of a subcutaneous injection of antipyrin and cocaine in labour. The following solution was injected into the tissues of the abdominal wall.

Antipyrin	2g. 00
Chlorhydrate of Cocaine	0. 04
Distilled Water	4. 00

The result in three cases in which this method was adopted was that labour pains were lessened, the patient became quiet and calm, the cries of the patient ceased, and labour terminated with no attendant pain. Nothing is said about the action of the drug on the dilatation of the cervix uteri.

Ovariotomy and Pregnancy.

By M. M. TERRILLON and VALAT.

Several cases of pregnancy complicated by ovarian cysts have come under the authors' notice and warrant them in forming the following conclusions:—In the early months do not temporise, but operate immediately. After the sixth month the risks, especially to the fœtus, become greater, and unless there are urgent symptoms demanding instant operation, it is better to wait until after the birth of the child. Though puncture of the cysts has many adherents, the

authors do not advise it, as it is not in every case efficacious, and does not do away with the necessity of the radical operation later on. The induction of premature labour, though at one time advocated, is now generally abandoned.

ARCHIVES DE TOCOLOGIE.

Total Vaginal Hysterectomy. By SECHEYRON.

Great progress has been made in total vaginal hysterectomy, both in the *technique* and result of the operation. The mortality attending this surgical procedure is becoming less year by year; thus, Leopold, Klotz, Brennecke and Heilbrun can show a series of cases with an extremely low mortality. Péan has a record of sixteen operations without a single death. In cases of cancer limited to the body, or cervix of the uterus, or restricted to one portion only, total vaginal hysterectomy is advisable. Partial extirpation is not to be recommended. The total operation is merely palliative, just as excision of a cancerous breast is. In both cases the operation is undertaken in the hope that the disease will not return. The author considers the operation justifiable from two points of view; firstly, as regards the mortality which is steadily decreased; secondly, as regards the remote results, which seem very favourable; upon this point however there are certain elements of uncertainty, and a further study of the future of the cases is necessary before expressing a decided opinion on the matter.

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THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, NOVEMBER 14, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 30 Fellows, 6 Visitors.

The following were elected Fellows of the Society:—Dr. Milne Brownlee, Canada; Dr. Holford Walker, Canada; Dr. Lincoln McPhatter, Canada; Dr. James F. W. Ross, Canada.

Dr. FANCOURT BARNES showed a specimen of a hard fibroid tumour, becoming calcified in parts, which he had removed about two months ago from a young woman twenty-three years of age, at the Chelsea Hospital for Women. The tumour appeared to be growing from the omentum and had no connection with the uterus. It was entirely enveloped in and surrounded by the intestines and omentum. The intestines were so strongly adherent to it that it occupied nearly an hour detaching them. In some parts it was impossible to separate the adhesions, and he had to cut off portions of the tumour in order to liberate the bowel. The tumour was entirely free from the pelvis and its contents. Down at the bottom of the pelvis a mass of chalky deposit could be seen and felt through a layer of peritoneum. He had never seen

anything like it before, nor had he seen any hard tumour, like that one he now showed, growing from the omentum. The patient recovered without an unfavourable symptom.

The PRESIDENT observed that he was present at the operation, and he was fain to confess that he had never seen a similar case. The pelvis was just like a chalk pit. The mass was as hard and as firm as a stalactite, and seemed to pervade not only the pelvis but the lower part of the abdomen. The chalky mass was not removed. The question was as to whether it was malignant or not; the intestines were so firmly adherent that he thought Dr. Barnes did wisely in removing what he could and leaving the rest. There was a history of very tardy development extending over several years, and the tumour was one of those the pathology of which it was difficult to define.

Dr. ROUTH called attention to the French idea that fibroid tumours growing from the uterus were, in reality, of ovarian origin, ovules having dropped from the ovary and become adherent to the part on which they had fallen. It would be very interesting, he thought, to trace their source, especially as there would appear to have been a great many more such tumours near the ovaries which had undergone calcareous degeneration, a change which was by no means uncommon. Again, he thought this case ought to be inquired into, particularly as to whether it was fibroid or tubercular in its nature. He certainly did not think it was malignant. He wished to know how the tumour got there and whether it tended to support the French theory.

Dr. BANTOCK thought it was very important that the specimen should be examined carefully, in order to decide as to its nature. He could not agree with Dr. Routh that it was likely to be ovarian. Some years ago Professor Turner, of Edinburgh, had found a fibroid tumour loose in the peritoneal cavity in the dissecting room, and he thought this tumour was probably an abdominal fibroid, the pedicle of which had been twisted and which had therefore become free in the peritoneal cavity, and had contracted adhesions to the intes-

tines before the separation of the pedicle as occurred in ovarian tumours.

Dr. ROUTH mentioned that he only wished to call attention to the French opinion that the ovum falling upon the uterus acquired the character of a fibroid tumour and then dropped off. He did not maintain that the theory was correct.

Dr. FENTON said that it would be of great interest if the tumour were examined microscopically, and it would be of great assistance to abdominal surgeons if the case were watched in the future, so that they might know what became of the mass left behind. If it turned out to be a fibroid tumour undergoing degeneration, then all that could be wished to happen in the tumour was already taking place. He suggested that if their galvanic friends had tried their treatment on this case, they would have claimed to have set up the retrograde changes in the tumour. At all events, it would probably have grown smaller and could have been claimed as a success. Of course, if the tumour were of a malignant nature, then the patient was no better off than before, because it would be sure to grow again rapidly. It would be a comfort to them to be assured that the tumour was a fibroid tumour undergoing retrograde changes, because many operators, in the presence of such a tumour, would have shut up the abdomen and left it as it was. Few would have had the persistent courage and skill of Dr. Fancourt Barnes in going on with the case.

Dr. DICKINSON said he had made an examination of a small portion of the tumour, and as far as he could judge, it was only composed of fibrous tissue with a few ill-formed spindle cells. There was nothing to show that it was malignant—it was certainly not of a carcinomatous nature.

Dr. HEYWOOD SMITH asked whether the existence of the ovary had been made out among the masses in the pelvis. Also whether the masses behind it were attached to the uterus or the pelvis. He thought Dr. Bantock's explanation was the most feasible. He said that they were not very clear as to the parts left behind. The question was as to how far the

twisting of a small pedicle goes before the tumour takes up its nourishment by direct adhesions. A fibroid tumour had far less vitality than an ovarian tumour. He knew of such a case in which the tumour had no attachment, except to the omentum. The omental vessels had become enormously enlarged, and thus kept up the nourishment of the growth. When the adhesions were separated, the tumour could be lifted quite out of the pelvis.

Dr. TRAVERS urged that electrolysis should have a fair chance. He presumed that no one would advance that it could turn fibroid material into calcareous material. He considered that it was desirable that no such misleading statement should go forth from that society as having been even thought of.

Dr. RUTHERFOORD thought that cases of calcification had been reported before, after the formation of adhesions. He said that fibroid tumours of the ovary were extremely rare, and he did not think that there was a case on record in which calcification had taken place. Such tumours generally got larger until they were removed. With regard to Dr. Fenton's remarks, he thought he was quite right. Dr. Fenton doubtless did not mean to infer that any one supposed that a tumour could be made calcareous by electrolysis, but that the calcareous formation would be attributed thereto. He said that many of those cases were treated by galvanism at or about the climacteric period, just when retrograde changes were likely to have begun, and thoses cases were claimed as successes.

Dr. BARNES called the attention of the Society to the importance of having the subsequent history of the cases brought before them. He mentioned that it was the practice of the Pathological Society to apply to Fellows for information respecting the after-history of the patients brought before the Society. He said that if this were not done, they were losing one of the most important elements of instruction. It was not too late for them to begin now. He thought they might appoint a special committee to search out the subsequent histories from Fellows who had exhibited specimens. The

value of such information would be simply incalculable. No Society, either in this country or abroad, was more richly supplied with interesting material than their own. But in many instances their value was impaired by the want of the subsequent history. To provide this was a duty which Fellows owed to the Society and to science.

Dr. FANCOURT BARNES, in reply, explained that he found no connexion between the tumour and any organ in the pelvis. All he could feel and see in the pelvis was the chalky mass which seemed to grow all round the wall of the pelvis. This could also be felt through the vagina. The patient was examined *per vaginam* a few days before the operation, and the mass then felt like the calcified head of a fœtus. He observed that he had always endeavoured to ascertain the subsequent history of his patients, and in this particular case he had written to her medical man in the country to ask him to be kind enough to let him know the progress of the case.

Dr. BANTOCK said he was almost ashamed to bring specimens of salpingitis before the Society, but this case had a special interest of its own. The specimens consisted of the uterine appendages which he had removed from a married lady, aged thirty-three, who had one child ten years before. The patient was well and exercising her profession at Chicago, in January last, when she was suddenly seized with acute pain in the lower abdomen and inguinal region, accompanied by severe vomiting and high temperature (105°-106°F). She was removed to New York three weeks later, where she lay until May 23rd, in a very serious condition. She was frequently sick, and had a continuously high temperature, with pain, loss of appetite and general constitutional disturbance. She was fetched back to this country, and arrived here in the beginning of June. He saw her two or three days afterwards in consultation with Dr. Howell, and he had no difficulty in determining that it was a case of pyo-salpinx. She was admitted into the Samaritan Hospital on the 11th of June. Her condition was at that time very unsatisfactory; the temperature was high, the pulse was over 106, the tongue was

furred and there was complete loss of appetite. She was in a great deal of pain, and still more disturbing was the fact that the urine contained a large amount of albumen. With complete rest and careful dieting on milk and farinaceous food, together with the tincture of the muriate of iron, the patient improved very much, the appetite returned, the pain ceased, and the temperature returned to normal. In view of the condition of the kidneys he was not at all anxious to operate, and seeing that she had improved so much, he decided to allow her to go home. Within a very few days, however, the symptoms returned as bad as ever. He ought, perhaps, to observe, that since January menstruation had been absent, but shortly after she left the hospital it returned. The temperature again went up to 140°F. The question as to surgical intervention had then to be decided definitely. Notwithstanding the persistence of the albuminuria, he was of opinion that the patient must take her chance, and he put it that way to the patient, who consented to be operated upon, and for this purpose she entered a private home. As might be imagined, the adhesions were very solid, and on the left side he really thought he would not be able to remove them without opening into the rectum. He washed out the peritoneum and put a drainage tube in. On the fourth day the bowels were moved —very much relaxed—and for the first time he noticed a most peculiar and disagreeable smell from the drainage tube; the smell was not fæcal, and was not that of offensive suppuration. The tube was washed out every two hours with a dilute solution of sulphurous acid, and within a few days the smell disappeared. He took the drainage tube out, and she was able to leave the home at the end of the month. She was now quite well. Such a condition of the kidneys as the albuminuria indicated—for there was no pressure to account for it, and the sp. gr. was low—evidently pointed to serious organic disease of the kidneys.

He then showed another specimen, which he said was important as bearing on certain remarks which he had made at the previous meeting in reference to Dr. R. T. Smith's case

of twisted pedicle of an ovarian tumour. The patient was a single woman, a cook, aged fifty-four; she was comparatively well-nourished, and was suffering from a tumour which had been diagnosed as fibroid. He mentioned that the patient had been under the observation of his friend, Dr. Routh, who sent her to the hospital, and was present at the operation. The reason for the operation was not the size of the tumour, but the discomfort to which it gave rise. She was quite unable to do her work, and was anxious for its removal. The patient was by no means blessed with a superior amount of intelligence, and it was extremely difficult to get her history. They ascertained finally that she was laid up in December last with symptoms pointing to disturbance in the pelvic cavity, and also some pulmonary mischief; beyond that nothing definite could be elicited. The operation was performed on the 30th October, and the moment he exposed the tumour he at once recognised it as one of twisted pedicle, from its opaque, dirty white appearance. It was universally invested by the omentum, and when he came down upon the pedicle he found it was twisted as he had anticipated. He thrust a trocar into it, but nothing came out; he then opened it and found it full of hard blood clot, which quite filled the sac. There was a good deal of oozing. He washed out the peritoneum, and put in a drainage tube; the patient did very well until the sixth day, when she became rather dusky in the face; the temperature was rising, and the urine was scanty and contained one-fifth of albumen. The patient died on the seventh day from acute suppression of urine. Post-mortem: there was nothing wrong in the pelvic cavity, but the kidneys were extensively diseased, pale, large, granular, the capsules slightly adherent, the heart and liver extremely fatty. The result was the more annoying, seeing that two days before he had looked upon her as having quite recovered, and still more annoying seeing that it would have made his ninety-first consecutive successful ovariotomy. This case came opportunely to support the views he had advanced at their last meeting when speaking about Dr. Smith's speci-

men. He then said that when strangulation of the circulation of an ovarian tumour took place, in consequence of twisting of the pedicle, symptoms of varying severity occurred. In Dr. Smith's case they were exremely severe, so much so that they would all agree that he was justified in operating under the most unfavourable circumstances. Sometimes, however, the symptoms were not so severe, although the local conditions were very much the same. After a time peritonitis, sickness, high temperature, and so forth, occurred; by and by the tumour contracts adhesions, shrinks in size, and remains quiescent for a certain time, usually however giving rise to a considerable amount of annoyance to the patient in consequence of the adhesions which were apt to cause pain on certain movements of the body. The patient was accordingly anxious to be relieved. In this case, one of the results of the strangulation of the pedicle was the effusion of blood into the cyst; there was severe hæmorrhage, and the blood coagulated until it formed a solid clot. If Dr. Smith's case had not been operated on, and had survived the condition she was in, it was probable that the contents of the cyst would have undergone the same change. The symptoms were very characteristic, and he had often been led to a correct diagnosis, not only as to the ovarian nature of the tumour, but as to the twisting of the pedicle. He called attention to one point in particular in reference to the washing out of the peritoneum. In an article published in the *Journal de Medicine de Paris*, by Dr. Pollaillon, it is stated that he washed out the peritoneum of a patient after ovariotomy, and the patient died. Dr. Pollaillon said that in consequence of the effusion of the blood, he washed out the pelvis with distilled water, which had been boiled and carbolised to the extent of one per cent., at a temperature of 37° C. The washing was continued for two or three minutes, when all at once respiration became quickened and then arrested, the face becoming livid; the heart, however, continued to beat. He at once commenced artificial respiration and then opened the trachea, and a few respirations were obtained, but although the heart continued to beat

for some time, he found it impossible to restore respiration. Dr. Pollaillon said that some might be inclined to blame the chloroform in that case, but he himself was unable to take that view, and he expresses the opinion that the death was entirely due to his washing out the peritoneum. He also refers to some previous cases in which he has observed serious symptoms to follow the proceeding.

Dr. BANTOCK said he had washed out the peritoneum many times, but had never seen anything approaching syncope, and he could not help thinking that if Dr. Pollaillon had used plain water instead of carbolised water, he probably would not have met with such serious symptoms. He thought that so weak a solution of carbolic might be absorbed in considerable amount by the peritoneum; that if a stronger solution had been used, the mouths of the lymphatics would have been sealed in the peritoneal cavity, whereas with a weak solution such as a one per cent., they had a solution which was not at all caustic, and was capable of instant absorption. There was one striking case to which he had referred in his paper on hyperpyrexia—a nurse had most serious symptoms from the application of a carbolic solution to the arm within half-an-hour. If such symptoms could occur from the application of a solution to the skin, how much more likely were these symptoms to arise when applied in this weak form to the peritoneal cavity? In conclusion, he thought that the use of a weak solution of carbolic acid in that case had very much more to do with the fatal result than the use of the hot water.

Dr. BARNES said he had seen cases of poisoning like that referred to following the use of carbolic acid. He wished to go back to the history of the first case of pyo-salpinx, and ask if the albuminuria persisted after the operation. If so, it was a matter of extreme importance. It had been taught that an operation upon an albuminuric patient was extremely dangerous, and was to be avoided if possible. Sometimes, however, the albuminuria was associated with the disease itself, and then when the cause was removed the albuminuria

also disappeared, as, for instance, in the albuminuria of pregnancy. They must be governed by the severity of the symptoms as indicating the necessity for an operation, and not by the mere presence of albumen in the urine.

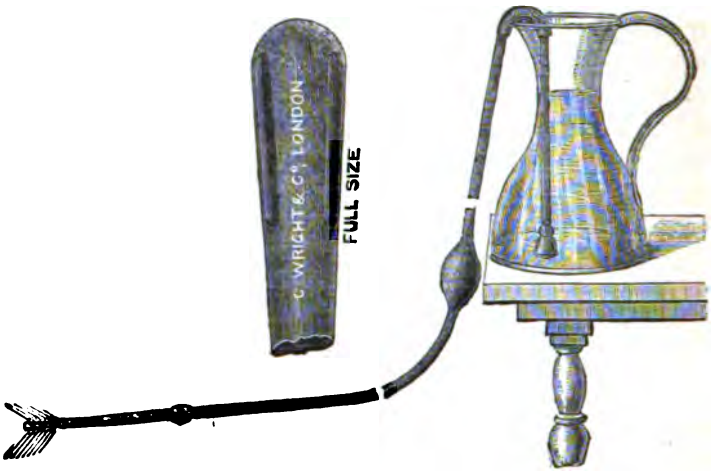
Dr. ROUTH said the case had been sent to him from the country to get into the hospital. It was stated to be a case of fibroid, but on referring to his own notes of the case he found that they pointed clearly to the tumour being ovarian. He doubted, therefore, whether he had ever committed himself to the diagnosis of fibroid.

Dr. BANTOCK, in reply to Dr. Barnes' question, said that the patient was first in the Samaritan Hospital, and after remaining for some weeks, she left. At that time the albuminuria was just the same. He then felt the necessity for doing something, and the patient was sent into a private home, where he operated. The albuminuria persisted up to the operation. He did not lay stress upon the presence of albumen in the urine, but its association with a low sp. gr., this, too, not the result of a large secretion of urine, for it never amounted to more than 40 ounces in the 24 hours. After considerable experience of cases of this kind, he hesitated very much as to whether he was justified in operating, because he looked upon the result as almost certain to be fatal. He was, however, driven to it, as the patient was almost constantly ill, and consented to take the chance. Since she had left the home and gone abroad, he had not had an opportunity of examining her urine, but he would doubtless see the patient again soon, and would be happy to report the result. It was no uncommon thing to have albumen in the urine, particularly when associated with a high sp. gr. In that case the albumen was due to pressure, and he had often operated in cases of tumour in which the urine became almost solid before the operation. He had not been deterred from performing hysterectomy even in one such case, because he felt that it was due to pressure, and within twelve hours it had disappeared. It was not, therefore, the presence of albumen, but its association with other

conditions that was important. He believed that the urine was examined for casts. The absence of casts was a matter of very little importance, or rather, the absence of casts did not determine the condition of the kidneys and the extent of the disease, because there was a condition of the kidneys when nephritis had passed into the chronic stage when the most careful examination would fail to show any casts, yet the kidneys might be in an advanced state of cirrhosis. He hoped Dr. Routh did not think he wished to disparage his powers of diagnosis. He said distinctly that everyone who had seen the case had regarded it as one of fibroid. He himself made a vaginal examination, and came to the same conclusion. Dr. Routh had laid great stress upon the fact that there was no menorrhagia, but out of between 80 and 90 cases of hysterectomy performed by himself, menorrhagia was only a symptom in a small number; nor was the size of the uterine cavity more to be relied upon. He had seen cases of large tumours in which the size of the uterine cavity was not increased in the slightest. These signs were not to be relied upon, and one must therefore be guided by the general signs and symptoms.

Dr. FENTON showed a simple syphon arrangement which he had designed for the operating theatre, to wash out the abdominal cavity. It consisted of an india-rubber tube in the course of which was a bulb, by means of which the syphon action could be set going without difficulty. It was also provided with a vulcanite arch to prevent collapse of the tube where it passed over the edge of the jug, and a weight to keep the end of the tube near the bottom. Mr. Lawson Tait used a tube something like it, except that there was no vulcanite arch to prevent kinking, and no weight and no bulb. They had used that apparatus at the Chelsea Hospital, but the nurses could never be made to understand how to set the syphon in action. In his instrument they only had to pinch the tube below the bulb after compressing it, to set it in action. He claimed that it was much better than pouring water from a jug which only washed the front of the intestines,

whereas the loin pouches and all the interstices amid the intestinal convolutions could be thoroughly cleansed by it. Moreover, the jug required a large abdominal wound to do its



work properly. The flow through the instrument was about a gallon per minute, but, of course, by increasing the calibre of the tube, the flow could be increased at will.

Dr. HEYWOOD SMITH thought it would be a very useful instrument for patients to use at their own homes, but in a hospital it was much better to have the ordinary can douche, which, when suspended at a proper elevation, was ready for use on merely turning a tap. He objected to the shape of the nozzle. He preferred a single hole at the extremity instead of the four or five holes as in that instrument, the only effect of which must be to diminish the force of the current. Even in the Higgenson syringe he preferred a single large hole.

Dr. RASCH said that an exactly similar instrument was sold in Paris and used by him 25 years ago. He had then brought it before the Obstetrical Society, but he had given up using it now because much better instruments were available.

Dr. TRAVERS asked whether there was sufficient force in the current to wash out the cavity efficiently. He thought

the water would get too cold while passing through so long a tube. He said the difficulty was rather in getting rid of the water than in getting it in.

Dr. BANTOCK said he had no desire to rob Dr. Fenton of any originality in the design of the instrument, but it was almost an exact copy of the instrument figured in his book on "The Use and Abuse of Pessaries." The absence of a tap was apparently the only difference. When he first began using the hot water he used a jug and it answered its purpose very well. Then he thought of the douche, but the same objection applied as to the instrument before them, viz., that the force of water was too small. He had therefore come back to the use of Mr. Tait's instrument. He had added what he thought was wanting in Mr. Tait's instrument, *i.e.*, a weight at the end of the tube. As the tube was very much larger it washed out the abdomen thoroughly. He failed to see that there was any difficulty in getting rid of the superfluous water. When he had finished washing out the abdomen, he inserted a drainage tube, and the rest of the water came away through that.

Dr. BARNES said there was no need of a special apparatus for washing out the abdomen. He thought Dr. Fenton's instrument might be very useful in washing out the uterus.

Dr. FITZGERALD (Folkestone), said he had traced a great many cases of uterine colic to the practice of using a nozzle with a single large opening at the extremity. He said that the openings should be directed backwards, so as to avoid the danger of any fluid entering the uterus.

Mr. DUNNETT SPANTON (Hanley), said that the simplest form, such as a jug with india-rubber tube and a tap, which could be raised to the height desired, he thought preferable to any special apparatus.

Dr. RUTHERFOORD did not think the calibre was large enough, and the india-rubber was not of the proper sort, that kind being very liable to go wrong if left in one position very long. Moreover, it was too limp and would kink. He said that a stronger current was required to wash out the abdomen.

Dr. FENTON, in reply, observed that most of the objections had been met in his preliminary remarks. They could use the kind of rubber and the calibre which they thought proper. He did not even bind himself to that shape of nozzle. He did not contend that the instrument itself was an entire novelty. The novelty lay in its application to the washing out of the abdomen, and certainly nothing had been advanced to make him feel that the apparatus was other than simple and efficient.

Sarcoma of Right Breast. By F. A. PURCELL, M.D., M.Ch. EMMA SANDERS, aged 43, admitted into the Cancer Hospital under Dr. Purcell on September 29, 1888.

Family History.—Her mother's sister suffered from cancer of the breast.

History.—She is a married woman, and has only one child 11 years old. Her general health has been good. After her child was born she had an abscess in the right breast, which ran its course and got quite well, leaving behind some slight induration.

She states that the first sign she had of any tumour was four years ago, when she noticed a lump on the site of the abscess. It grew larger and larger, not very rapidly at first, and she did not have any advice about it; but later on it began to grow more quickly, and what discomforted her most was the weight of it. With regard to actual pain she suffered very little. She placed herself under homœopathic treatment, and remained under it until she came to the hospital on the 29th of September, 1888.

On admission she was found to be suffering from a large sarcoma of the right breast. The tumour was fungating at one point, where the skin had disappeared, and there was a discharge from here at times. There were numerous nodules on the outer side of the breast. There were many superficial veins distended, and the whole mass seemed intensely vascular. Hæmorrhage occurred twice after admission, and was stopped

with iron lint. She appeared pale and anæmic, but otherwise there was no constitutional disturbance. She was very anxious to get rid of the tumour owing to its weight, which prevented her from getting about. The disease seemed entirely localised in the breast, the axilla being quite clear, and the arm perfectly free.

On the 2nd of October the breast was excised and an open wound left, measuring about six inches by five inches, which was dressed with carbolic oiled lint and strapping, over which was placed salicylic wool. Hæmorrhage was easily controlled. The tumour weighed 5¾ lbs. directly after removal.

Since the operation she has progressed favourably, and now shows signs of the immense relief afforded by the removal of the growth. The wound is now a healthy granulating surface, upon which were placed (October 22nd) six small skin grafts taken from the patient's own arm.

The growth is depicted life-size in a drawing taken by Mr. Wm. J. B. Carter, to whom I am indebted for the notes of the case.

After the carbolic oil dressing was omitted, lint soaked in boro-glyceride lotion was applied to the granulating surface.

Nov. 14.—The surface has nearly skinned over; patient is in good health.

The drawing was taken by Mr. Carter, my house-surgeon, and the photograph was taken by the artist of the *Illustrated Medical News.*

Mr. DUNNETT SPANTON (Hanley), said that sarcoma was rare in the breast, and amongst the whole of their cases at the North Stafford Infirmary they did not number more than one in thirty or forty. The more he saw of these cases the more he was convinced that the sooner they were removed the better. He urged that this should be impressed upon the public.

Dr. HEYWOOD SMITH said the remarkable feature was the freedom of the axillary glands. He asked whether the hereditary history said anything as to the sort of tumour that the parent had died of.

Dr. PURCELL, in reply, said that all they were told in the history of the case was that the mother had died of cancer of the breast. He said that as it was a sarcomatous tumour the glands were not enlarged. It was encysted springing from the connective tissue.

In reply to Mr. Spanton, he said, in sarcoma of the breast the axillary glands were seldom found affected, but in scirrhus the glands of the axilla were more or less always affected, and here it was with him the rule to open up the axilla, in itself an easy operation, and carefully examine for and remove all glands, even to the very smallest that could be felt. Sarcoma was found to disseminate itself rapidly to distant organs when once the capsule of the parent tumour had ruptured; whereas in scirrhus recurrence occurred in the immediate neighbourhood, and in and along the chain of lymphatics to the glands. In either form of growth he agreed in its early removal, delay in operating being most fatal. Large sarcomatous tumours of the breast were common enough in his practice.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, NOVEMBER 28, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 20 Fellows, 3 Visitors.

The following were proposed for election:—Dr. Arthur Septimus Thompson, Toronto; Dr. Robert Mills Simpson, Winnipeg.

Dr. HEYWOOD SMITH showed the ovaries which he had removed from a patient the previous Saturday. The chief interest was the distinct history of peritonitis seven years ago, and another attack two years ago. The patient was twenty-eight years of age. Since last April there had been total amenorrhœa, with the exception of one day. There was a little tumefaction on the side where there was constant pain. When he saw that there was very little disorganisation of the ovaries themselves he said he was certain they would find the tubes interfered with. This proved to be the case. The probe passed from the fimbriated extremity of the tubes, and in both of them the block was about one inch from the uterine end; there was no cystic distension of the tubes themselves. The tubes were a little large and swollen, the absolute amenorrhœa failing disorganisation of the ovary pointed to the blocking of both tubes. He spoke of the importance of removing the whole of the ovaries and tubes in these cases. He mentioned a case which he had under his observation for twelve years, and ultimately the patient had gone into a special hospital. He sent to the surgeon in charge the full notes of the case, and attended the operation by invitation. The surgeon, just before the operation commenced, criticised the treatment in a way which he thought was rather bad form.

Among other things he referred to a pessary which, although invented by one of that gentleman's colleagues, he professed not to know. The girl had pain in both inguinal regions, and he remarked that both ovaries were not completely removed. A fortnight later he found that menstruation had returned, and although the pain was removed on the side on which the ovary had been altogether taken away, it persisted on the other side.

The PRESIDENT said that such specimens were always of interest. Under ordinary circumstances persons were allowed to go on suffering indefinitely. Now that one had become alive to the fact that such persons were restored to a useful life by removing the ovaries, he urged that when proper symptomatic treatment had been tried and had failed to relieve, they were justified in putting before the patient the alternative of removal of the ovaries.

Dr. BANTOCK said the subject had been recently discussed in one of the journals as to whether menstruation returned after removal of the appendages, when a portion of the ovary had been left behind. He himself was distinctly of opinion that leaving a small portion of the ovary had nothing to do with the return of menstruation, at least he could prove the contrary, viz., of menstruation having returned when every portion of the ovary had been removed. He had one case fresh in his memory in which a tumour weighing ten pounds was removed from one side and one of a pound from the other side. In that case there were good pedicles on either side, and it could not be doubted that every trace of ovary had been removed. Yet within six weeks of the operation that patient had almost a flooding, and she had continued to menstruate although not with complete regularity ever since. He could record another case in which every portion of the ovary had been removed on both sides and the tubes also, yet in that case menstruation had been more regular than it ever was before the operation.

Mr. LAWSON TAIT said that it might be substantiated by everyone who had anything to do with abdominal surgery at

all. The claim made by Sir Spencer Wells that leaving the faintest scrap of an ovary led to a continuance of the menstruation after the operation gave the ovaries a *rôle* that was absolutely unique. It would not be supposed for a moment that leaving twenty grains of the kidney would enable a person to go on secreting urine, or that if a bit of the liver was left, she could go on secreting bile as before, and so on. If menstruation was dependent on the ovaries, surely the proportion of the function must bear some relation to the amount of the organ left. As a matter of fact it did not do so in the very least. If they took a double ovarian tumour in which disease had abolished every trace of ovulative tissue, they nearly always found menstruation entirely uninterfered with. There were fifty other arguments against the idea that ovulation is the cause of menstruation. He had a number of cases of hysterectomy in which he knew he had removed every trace, without putting a stop to menstruation. In one case, where there was no uterus, no tubes, and no ovaries, the patient menstruated.

The PRESIDENT said he had a patient whose ovaries he had removed two years ago with the tubes, and she had menstruated more regularly than before.

Dr. RUTHERFOORD showed a specimen which he had removed from the nympha of a woman at the Chelsea Hospital for Women, and which had been thought to be an ordinary follicular cyst. He had made a section and it would be seen to be a fibroma of the nympha. Those tumours were rare, and he had therefore decided to bring it before the Society.

The second case was hardly gynæcological. It was that of a fœtus with a large tumour extending from the upper part of the occipital bone to about the middle of the dorsal region of the spine, and going completely round the neck. It was limited in front by the lower jaws, and below by the clavicles. He took the specimen to be either one of meningo-myelocele occurring in the cervical region instead of the sacral region, or meningocele occurring in the head in one of the most frequent positions, just above and behind the foramen magnum.

The curious part was the extension of the tumour round in the front. The ordinary tumours of this sort were limited to the back of the head, and did not embrace the whole neck as this one did. One possible cause of extension was pressure during labour rupturing the sac, thus allowing the fluid to escape into the surrounding connective tissue, or during the growth of the fœtus the sac may have ruptured and the contents escaped into the surrounding connective tissue. When he saw the woman she told him she had aborted three weeks before she came to him. She was admitted and he disbelieved her statement as to the miscarriage. At the time of birth, however, there was a double placenta with two sacs. The other was much smaller than the one belonging to the fœtus produced, and was quite bleached.

Dr. BEDFORD FENWICK asked what was the size of the fibroma. He said a German paper had published a drawing of one which came down to the patient's knees. Some years ago he had brought such a case before the Society which weighed between two and three pounds. He asked whether the wound healed well, whether he dissected it out and whether there was much hæmorrhage.

Dr. RUTHERFOORD said the tumour was the size of a walnut. He dissected it completely out. There was free hæmorrhage. He was aware that similar cases had been reported before, but he thought that possibly Dr. Fenwick confounded fibroma with elephantiasis of the labia.

Dr. FENWICK replied that the sections showed it to be a fibroma.

The PRESIDENT said he had intended to show the Society a small fibroma, but he had handed it to Dr. Rutherfoord for the purpose of having sections made, and Dr. Rutherfoord had unfortunately destroyed it. In the case Dr. Rutherfoord had reported, he had removed the tumour and put in sutures, obtaining union almost by first intention. The case was of some interest, because it was situated deeply by the side of the clitoris and along the urethra. It was about the size of an olive one way, and that of a hazel nut the other way. It

was with difficulty dissected out. The patient was a married woman with one child three years old. Soon after marriage she felt very inflamed and found a small swelling, the size of a nut, in the anterior fourchette. There was no interference with micturition. Later on she complained of a dragging pain with back ache, and she began to suffer from dysmenorrhœa. At length she could put up with the inconvenience no longer, and came to have the growth removed. He operated last week, and the patient did perfectly well. Curiously enough the distressing pain and frequency of micturition, with pain running down the inner sides of the thighs on standing, had all disappeared from the time of operation.

Dr. MANSELL-MOULLIN exhibited a typical specimen of a papillary cyst of the hilum of the ovary. In the recent state it contained seven to eight pints of fluid. The ovarian stroma was pushed to one side. Papillomatous growths covered the whole of the interior of the cyst. Its removal had afforded an illustration of the unexpected difficulties which might occur to the inexperienced operator, in what was apparently a simple case. No difficulty was found in diagnosis. It was clearly ovarian, but when inspected it was found to be sessile and so closely adherent to the colon that it was impossible to separate it. The peritoneum passed from the colon on to the tumour. When lifted up, what appeared to be the pedicle was seen in front; on closer inspection this proved to be the bladder, which was also intimately adherent to the cyst. The free portion of the tumour was then cut away and the remainder successfully enucleated. In inexperienced hands the patient would have stood a very good chance of being killed on the table, or the operation would have been left incomplete. The papillomatous growth would certainly have infected the peritoneum.

Dr. BANTOCK said the specimen was evidently not a parovarian cyst, for the parovarium was shown very clearly between the tube and the ovary. It would appear to be one of those cysts arising from the wollffian body; that explained the presence of the papilloma inside, for it had been demon-

strated very clearly that cysts developing from fœtal remains were very likely to be papillomatous.

Dr. EDIS (the President) exhibited two fibroid polypi, removed from two patients during the last few days. The larger one was from a patient aged fifty-one. She stated that about two and a-half years ago she had a severe flooding and was laid up for nearly three months. Since then the periodical sanguineous discharges had been very profuse and prolonged, and there had been much muco-sanguineous discharge between whiles—often very offensive. Accompanying the first attack of hæmorrhage, much pain was experienced. Of late there was merely aching pain in her left side, with the sensation of a burning heat. The general health had not suffered materially, but she was obliged to be very careful in not getting about too much. On examination, the cervix uteri was found to be considerably distended, embracing a fibroid polypus the size of a French walnut, which was slightly protruding from the os uteri. The rim of the cervix was complete and was seen per speculum. The polypus was seized with volsella forceps and drawn down, it was then gripped by a pair of ovum forceps and slow torsion employed, so that the growth was detached. There was no hæmorrhage, but as the patient was very nervous and complained of some pain when the torsion was employed, a little chloroform was given. After removal, the cervical canal was found to be somewhat eroded, so strong liniment of iodine was applied. The patient convalesced without a bad symptom. The chief reason for exhibiting the specimen was to impress upon practitioners the importance of making a correct diagnosis. The polypus had evidently been presenting in the cervix from the date of the first flooding, two and a-half years ago, and could probably have been as safely removed then as now.

In the second case, the patient was aged thirty-one. Married eight years, one child, one miscarriage. Eighteen months ago the period became profuse, and four months since the loss was considerable, the sanguineous discharge

continuing between the periods. She had also a greenish yellow offensive discharge from the vagina. Bearing down and dragging pains were experienced, and at length the patient was obliged to lie up. On examination, a large smooth rounded mass was detected projecting from the cervix uteri, the rim of the latter surrounding the growth completely. The *polypus* fitted into the dilated cervix and prevented the pedicle being felt distinctly. By the aid of ovum forceps the growth was twisted off without producing pain or hæmorrhage, and the patient convalesced perfectly.

Dr. ROUTH said that one reason that country doctors failed in the matter of diagnosis was not from want of knowledge, but because in many country towns if a man was known to be addicted to gynæcological examinations his patients left him. Also, in many cases, the patients had refused to allow their doctors in the country to make any examination.

Dr. BANTOCK mentioned a case which he had that very morning. The polypus was felt within the os. He had to dilate the cervix in order to remove it. He had to cut through the whole of the connections, for it had not yet assumed a polypoid form.

Dr. BARNES said that in his own experience he had not found that country practitioners were behind-hand in examining. Practitioners in the country were often on terms of social intimacy with their patients, and in these circumstances women might object to be examined by doctors they might have to meet at the dinner table. He thought it was rather that feeling than the fear of losing their practice that restricted gynæcological examinations in the country.

Mr. LAWSON TAIT cordially endorsed the remarks that had fallen from Dr. Bantock, which were quite in harmony with his own experience on the subject. He did not believe that practitioners were exposed to any risk in carrying out examinations when they were necessary, on condition, of course, that they were done in a proper way. Some men passed the speculum and then the sound, as a matter of

routine and without any very clear object, but others declined on the ground that they lacked the experience to avail themselves of such examinations.

Dr. ROUTH said that he was alluding to cases which had come under his notice, and he quoted two cases in which the patients were anxious to have some examination made, but the practitioners had declined to do so. He had merely stated what ladies had told him.

The PRESIDENT said he was unable to understand why an examination had not been made in the cases mentioned by Dr. Routh. He could quite understand that men did not like to examine women with whom they were on terms of social intimacy, that was quite reasonable.

Dr. HEYWOOD SMITH, in reply, said that as a rule too much fuss was made with regard to a vaginal examination. It should be proposed, when necessary, with the same facility as an examination of the throat. Practitioners ought not to look upon it as something extraordinary, and he had always tried to impress this upon the minds of medical men.

The Society then adjourned.

THE BRITISH GYNÆCOLOGICAL SOCIETY.

WEDNESDAY, DECEMBER 12, 1888.

ARTHUR W. EDIS, M.D., F.R.C.P., PRESIDENT, IN THE CHAIR.

PRESENT: 26 Fellows, 6 Visitors.

The following were elected Fellows of the Society:—Dr. Arthur Septimus Thompson, Toronto; Dr. Robert Mills Simpson, Winnipeg.

The following were proposed for election:—Dr. Georges Apostoli, Paris; Dr. Alfred J. Smith, Dublin; Dr. J. Thornhill Ashton, London.

Dr. SAVAGE showed two specimens which he said were not much in themselves, but served to illustrate the difficulties to which one was exposed in deciding as to the propriety of operating. They were the appendages of two patients, young women of about twenty. In one case it was found that pus was contained in one ovary and in one tube; in the other case, on which he had operated that morning, small cysts were found in both ovaries, the right one being the size of a pigeon's egg and containing a dark brown serous fluid, and in the other a dark brown thickish fluid. In these cases there had been pain for a long period, and they had been under treatment two and three years respectively without benefit. There were no objective symptoms, except that in the second case there was an acute retroflexion of the uterus. The absence of objective symptoms appeared to him to be very important, because he felt sure that if an ordinary physician had seen these cases, he would have objected to the abdomen being opened. In many of these cases it was quite impossible to be certain of the diagnosis beforehand, yet unless they opened they knew they could give no relief. He mentioned that he

had gradually adopted the practice of washing out the abdomen more frequently than formerly, without knowing exactly why, but he found that it greatly conduced to the safety of the patients, and there was much less pain than when simple drainage was employed, while the wound healed as quickly as ever. He thought they ought to wash out the abdomen more frequently, even in simple cases where a little fluid might have escaped into the peritoneum, instead of having recourse to dry sponging. In reply to the President, he said that he had relied altogether on the subjective symptoms.

Dr. ROUTH said he had seen many cases in which an abscess having formed in the ovary, the contents had become indurated from absorption of its liquid portions, and there had been no further annoyance. The patient often lived for years after the subjective symptoms had disappeared. He said that the question often presented itself as to how far they were justified in opening the abdomen on the strength of such symptoms. Also in the post-mortem room they often met with cases of abscess in the ovary in which the contents had been absorbed or consolidated. Even during abdominal section he remembered one such case in which the patient had been suffering much pain for years, and when they operated, while the right ovary was full of stinking pus, the left ovary contained solid matter, evidently the fluid matter having become absorbed. The patient died, probably in consequence of infection from the putrid pus: but he believed they had not washed out the abdomen with water in that case. He thought that in many cases it would be sufficient to puncture *per vaginam* and inject iodine, &c. Probably if Dr. Savage had left the cases alone they would have been very much relieved by ordinary treatment, without abdominal section; the fluid contents would have been absorbed and the patients would have done well. Excellent as were the results of abdominal section by ovarian extirpation, they must remember that the woman was unsexed thereby. He asked whether these cases, if left alone, would not be likely to become quiescent, for it was confidently

believed by many that if only a portion of the ovary were left, the woman would be enabled to have children.

Mr. LAWSON TAIT said he was quite prepared to substantiate all the views that had been advanced by Dr. Savage. He referred members to the facts recorded from the great London Hospitals. He alluded to the investigations carried out in the post-mortem room by Dr. Grigg, Dr. Kingston Fowler, Dr. Horrocks and Dr. Lewers. The latter had examined one hundred consecutive women in the post-mortem operating room and Dr. Kingston Fowler had found seventeen cases of pyo-salpinx, and of the number eight had died directly from the effects of that condition. He thought that fact settled Dr. Routh's hypothetical statements. A man who would neglect his obvious duty, if called upon to treat such a case, for the sake of a hypothetical future baby, would be neither more nor less than a criminal.

Dr. ROUTH said he only suggested that they should endeavour to relieve the condition of the ovaries by puncture *per vaginam.* He said he had done it over and over again with success; he did not advocate leaving the cases alone, but if they could treat the cases as well from the vagina, it was their duty to do so first.

Mr. LAWSON TAIT said he would take Dr. Routh's own statement of facts, and denied that his cases were cured. He said it was impossible to cure even a simple parovarian cyst by tapping, it was sure to refill and require removal. They had tried tapping over and over again and it had become a matter of universal demonstration; even in abscess of the breast where they could get at it they could not effect a cure by tapping.

Dr. ROUTH pointed out that he had not spoken of a parovarian cyst, but of an abscess of the ovary only.

Dr. BANTOCK said he endorsed what Mr. Tait had said. He raised a very important point. Alluding to the fact that on a number of occasions death was said to have resulted from the passage of the sound, he said he had long been sceptical as to the possibility of inflicting injuries of such a nature as to cause death, merely by passing

the sound into the uterus, at any rate, when properly handled. He thought that if these cases were looked into, they would be found to be cases of pyo-salpinx in all probability, or disease in the region of the appendages. It was because those conditions were practically unknown before Mr. Tait had opened their eyes on the subject, that they heard so much about the occurrence of accidents after passing the sound. He had not heard of such an accident of late years, probably because men were alive at present to the fact that there were such things as pyo-salpinx and abscess of the ovary, and that these conditions were by no means uncommon. He observed that Dr. Savage had omitted to mention one other advantage attending the practice of washing out the abdomen, viz.:—the absence of fever after operation. It was instructive to watch the masses of blood clot, fibrinogen and débris of all sorts floating out with the stream in the process of washing out, which could not be properly removed by means of the sponge. It was evident therefore that the patient stood a much better chance.

Dr. BEDFORD FENWICK asked whether they always washed out the cavity.

Mr. TAIT said always when there was pus.

Dr. BANTOCK said he washed out whenever there was a mess of any kind.

The PRESIDENT thought that an expression of opinion ought to go forth from the Society with respect to the practice of tapping, which he contended was a most monstrous thing. Formerly, when his hands were tied and he was not allowed to perform abdominal section at the Middlesex Hospital, he had tapped in several cases and the result had been most disastrous, so much so that he felt utterly ashamed of himself and had declined to continue his work under the absurd restrictions as to operating. He would say to men who felt inclined to perform tapping *per vaginam* "Don't;" even if some pus were drawn off it would re-accumulate. He characterised the movement as retrograde, and said the mere mortality returns were not to be relied upon, as the usefulness of the individual was in itself a very important

element. It was not much good leaving a woman alive if her life was a misery, and if she were incapacitated from any occupation, social or otherwise. Those were the cases that could be relieved by abdominal surgery, and he thought that it ought to go forth to the profession, that cases where there were very few objective symptoms, but where the capacity for daily occupation was destroyed, should be dealt with in this way. He repeated that no medical man was justified in allowing these chronic invalids to go on, without giving them the chance of appeal to a higher court where the propriety of operative interference could be decided.

Mr. LAWSON TAIT said he had a specimen to show which bore very much upon what had just been said; he showed the appendages from a lady thirty-nine years of age, with a very remarkable history. She had been married at the age of seventeen or eighteen, and had two children within twenty months of her marriage. Soon after her second confinement she contracted gonorrhœa from her husband, and she had never known what it was to be well since. She had led a life of single misery for several years. Then she married again, but her health did not improve and she never became pregnant by her second husband, so that ever since nineteen or twenty she had been absolutely sterile. During the last seven years she had been the patient of a distinguished gynæcological baronet, who had, however, failed to relieve her. Ultimately she had been referred to him and he had operated. She had double pyo-salpinx of old standing, and it was very difficult to say which was tube and which was ovary. There were abscesses in both ovaries, and if he had attempted to tap them from the vagina, he would have been obliged to tap several cavities. Instead of doing anything of the kind he opened the abdomen a month since and the patient was now practically cured. A case like that was worth a dozen hypothetical imaginations. There was a woman who had been an invalid for years, who could have been relieved at any time, who had been under the care of all the well-known specialists of London, many of whom had declared that there was nothing the matter.

The other specimen was another illustration of the difficulties of diagnosis. It opened up the eternal question as to whether they ought to wait until they were sure of what they were doing. He had long since laid down the rule, that a doubt as to the diagnosis ought not to be allowed to interfere with the treatment. There had been severe pelvic illness for four months. Menstruation, then and before, had been quite normal. The patient was a young woman twenty-eight years of age, and she had one child when she was twenty-two. There was no history of perimetric trouble, no derangement of menstruation, but the pelvic condition was very serious. She was unable to walk or stand. The roof of the pelvis was fixed. He did not know what was the matter, so he told her that her case was serious, and that it would be necessary to open the abdomen to see what it was. It turned out to be a rupture of a tubal pregnancy which had doubtless taken place some weeks before; the clots were beautifully laminated and the sac was distended like a balloon. He mentioned that a question had been raised in America as to whether his cases were really cases of tubal pregnancy at all, because in many of them he did not find the fœtus. He admitted that in the majority of cases the fœtus was not found, but he pointed out that this was exactly what one would expect at that early period of pregnancy. In any case, it was easy to settle the question by means of the placenta; even a microscopical examination was not called for, but he had sent a cutting of the placenta in this case to three well-known microscopists and they had all three reported that the tissue was undoubtedly placental tissue. This had been done in the great majority of the cases.

Dr. MANSELL-MOULLIN, in reference to Mr. Tait's case, asked whether there were any objective symptoms; the difficulty was that very often there were only subjective symptoms. He thought that the interest of the case centred in this. Few would hesitate to operate when there was a defined and painful swelling in the pelvis.

Mr. TAIT replied that there were two big symmetrical lumps on either side, and the case had been treated as one of retroflexion.

Dr. GRIGG asked whether Mr. Tait had ascertained if the patient had any fever at her last confinement. He mentioned that he had had two or three cases, one of which had ultimately been operated on by Mr. Tait, and another case of recent occurrence in which the patients had had puerperal fever which had evidently lit up the mischief. He had already published the results of several post-mortem examinations of women who had died at the Queen Charlotte's Hospital, showing that the deaths were due to old encysted abscess in the broad ligament or in the uterine appendages, and on enquiry he had found it stated that the patients had suffered from puerperal fever at one time or another. He mentioned the case of a single girl, aged eighteen, who was asserted to be a primipara, but in whom the symptoms had led him to suspect that there had been a previous pregnancy followed by fever. She happened to come from a home close by, and subsequently he learned from the matron that one year before the patient had had a child and had narrowly escaped with her life from puerperal fever. The post-mortem examination showed old abscesses in the left ovary and pus of long standing in the fallopian tube. He insisted upon the fact that women who had once had puerperal fever required great care at any subsequent confinement, and when puerperal fever arose, the blame often fell upon the innocent medical man.

Dr. ROUTH said there seemed to be a desire to misconstrue his statements. He had never referred to parovarian cases. He did not assert that in every case it was desirable to puncture *per vaginam*, but he urged that if they had a tumour or abscess which could be felt distinctly and got at readily from the vagina, he thought that before they opened the abdomen they ought to try the aspirator. He added that he did not remove the aspirator as soon as he had withdrawn some pus. He washed out the cavity and injected iodine, &c.,

for a week or ten days. He claimed that he had done so in a great number of cases with very satisfactory results, and under those circumstances it could not be considered altogether bad practice. He could point to half-a-dozen cases within the last two years of complete success, in spite of all that had been said by Mr. Lawson Tait and others against the treatment.

Dr. SINCLAIR said he thought that the gentlemen who advocated abdominal section and removal of the part containing the abscess in every case, were a little too absolute. If they recommended section authoritatively in every case, then every blockhead in the country would be performing abdominal section and causing the death of his patients. The operation might be all very well when performed by such experts as Mr. Tait or Dr. Bantock, but practitioners generally would not be so successful. The position of the matter was very clear; no sane man would hope to cure a patient like the one from whom Mr. Tait's specimen was removed, by tapping, but all cases of ovarian disease were not like that one. There might be an abscess in the fallopian tube or in the ovary which was firmly jammed down into the pelvis, and with which it was perfectly safe to deal *per vaginam*. A great proportion of parametric abscesses burst through the vagina, and that was considered a comparatively favourable result for them. Why should other abscesses not be opened in the same direction? No one would think of aspirating alone. He thought it would be just as good surgery to extirpate the breast in every case of abscess, as to remove the appendages in every such case. In single abscesses jammed down into the pelvis they certainly ought to operate through the vagina. He always found that nature had made a great effort to prevent these abscesses from bursting into the abdominal cavity. He mentioned a case of abscess of the ovary in which there was a cyst of considerable size. The cyst was sutured to the wound after abdominal section and washing out, but the patient died after violent vomiting, during which some of the stitches gave away.

In every case since then he had operated through the

vagina when there were adhesions. After ascertaining the presence of pus by the aspirator he would incise and drain. There was no pathological reason why there should not be perfect healing under this treatment. He thought it was a dangerous doctrine to teach practitioners that abdominial section was the only proper treatment in every case.

Dr. SAVAGE said that he thought Dr. Sinclair had been alluding to an abscess outside the peritoneum. His remarks would not therefore apply to cases of pyo-salpinx or abscess of the ovary.

Dr. GRIGG said that abscess in the tube or ovary did not contain very offensive pus. An abscess like that described by Dr. Routh was due to parametritis. He did not believe that any person was ever cured of abscess of the tube by puncture, but he thought that Mr. Tait would agree that the other variety of abscess might very well be treated in that way.

Dr. BANTOCK confirmed what had been said by Dr. Grigg and Dr. Savage. He said that when they had an abscess depressing the vaginal roof it was a case that might be treated through the vagina. If, on the other hand, they had an object occupying one side of Douglas' pouch and rising out of the pelvis, then it was a case for abdominal section. He referred to a remarkable instance in which his conduct had been guided by those considerations. He succeeded in emptying the cavity of about six ounces of very fœtid pus through the vagina, and he then washed it out with a solution of iodine, and the cavity healed up forthwith. In that case, however, the indications were so marked that no one would have thought of doing anything else. He said the cases were quite distinct, and these considerations came forcibly before him as Professor Sinclair was making his remarks.

Dr. SINCLAIR was still of opinion that the pathology of the disease pointed to exceptions to the treatment by abdominal section. When the inflammation which ended in abscess of the tube or ovary was accompanied with severe perimetritis, there would certainly be adhesions of the abscess sac, when it acquired any considerable size, to the pelvic floor.

Such abscesses could be felt on examination bulging into the vaginal roof. Parametritic abscesses were as a rule best left alone.

Dr. BANTOCK observed that he did not say that the tumour bulged into Douglas' pouch, but into the vagina. It was easy to understand how an abscess of the tube bulged into Douglas' pouch, but it was difficult to understand how it could bulge into the vagina.

Mr. LAWSON TAIT said that he had just published a little book on "Ectopic Gestation," the main essence of which was to show the enormous difference, which is constituted pathologically as well as clinically, in what takes place outside as contrasted with what takes place inside the broad ligament, as far as ectopic pregnancy was concerned, and he might say the same thing about abscesses. The relations to the broad ligament was the gist of the whole issue, and if Dr. Sinclair had not grasped this elementary fact, he must be still in the region of utter darkness.

Dr. Sinclair had confided to him that he was in possession of a copy, but he was afraid after what Dr. Sinclair had said, that he had not grasped the contents, for he spoke of rupture of the tube into the broad ligament. The vaginal issue for a resulting abscess was not safe, but it was the safest. The mortality was twenty-seven per cent. It was, however, nothing like so safe as abdominal section, of which he could produce some forty-five examples without a death. Moreover, his cases got well in three weeks, while the others took months and even years. He was so impressed with this that he had given up vaginal treatment altogether in those cases. To paraphrase Dr. Sinclair's words, he would rather every blockhead in the country did abdominal section than to see any blockhead performing vaginal puncture. A parametric abscess was about the rarest pelvic condition there was. A bulging into Douglas' pouch was certainly not in the broad ligament, it must be something in the peritoneal cavity; a lowering of the roof of the vagina was as clearly parametric. He mentioned one other method by which they might easily determine, whether

a tumour was in the broad ligament. On the left side anything in the broad ligament would pass more or less round the rectum like a ring, and that could be felt. If in the right broad ligament, then it would pass up along the brim of the pelvis and could be felt there. There was no difficulty at all. Since that light had come to him the whole scheme of pelvic pathology lay in distinguishing between whether tumours were inside or outside the broad ligament. In reply to Dr. Grigg, he said the patient in question had recovered all right from her confinement, but had had an attack of gonorrhœa soon after.

Dr. BANTOCK showed a fibroid tumour, weighing fourteen pounds, which he had removed on the 30th of last month from a widow, forty-three years of age, who had one child ten years ago. She had been aware of the presence of the tumour for some years. For some months she had been trying the "Faith Cure," but finding that it did not succeed, she had decided to come to him. During the period which elapsed between the time when he first saw her and the date of operating, a marked increase was noted in the size of the growth. There was nothing particular to notice in so far as the operation was concerned, he had obtained a good pedicle, and the patient was then doing perfectly well and was practically convalescent.

Turning to the second specimen, he said that there was a great similarity of configuration in both cases, and, if the first case had been allowed to go on, it would probably have attained similar dimensions. The case had been recognised as one of fibroid tumour for nine or ten years at least. Eight years ago abdominal section had been performed, but it was thought desirable not to proceed any further with the case, and the wound was closed. Four years ago the patient entered Bartholomew's Hospital with a very large tumour, being admitted into the surgical wards, but was ultimately sent home without anything having been done. Two years ago she was again admitted into the hospital, that time under the obstetric physician, but after various communications

had passed between the physician and the surgeon who had performed abdominal section in the first instance, she was once more sent home. At last her sufferings became so great, and she was so anxious to have something done for her relief, that she sought admission to the Samaritan Hospital. The case was not an encouraging one to interfere with, for there was distinct evidence that the kidneys were not sound. The patient, however, said she would rather die than go unrelieved, and he determined to do what he could for her. She measured 50 inches in circumference at the umbilicus, and the distance from the sternum to the pubes was correspondingly large. He operated on the 4th of last month, The urine was cloudy, with albumen, and with nitric acid freely effervesced. Both broad ligaments were so involved that the reflexion took place considerably above the crest of the ilium. Enormous vessels on each side required to be secured, and the base of the tumour was of enormous extent, so that it had to be enucleated. The peritoneum was divided on the tumour six inches above the pubes, and right round to the ovarian vessels. There the vessels were carefully secured before cutting, many being as large as the little finger. After securing these, he passed round to the back of the tumour, divided the peritoneum, and shelled it out. The last thing met with and divided was the uterus, the neck being drawn almost into a cord. When cut through, he saw it was the cervix. After the removal of the mass, which was curiously nodulated, an enormous surface was left exposed, but he remarked it rapidly contracted after the removal of the tumour, and big distended vessels almost at once disappeared. After tying many bleeding points and removing some portions of enlarged veins in which the blood had coagulated, he stitched the anterior half of the peritoneum to the posterior, and completely obliterated the raw surface. He, however, did not like leaving it in that condition. though it appeared perfectly dry, but as he was very much exercised in his mind how to obtain good drainage he left it. That was a mistake, in his opinion. The patient lived

six days, and then died. At the post-mortem examination the peritoneal cavity was found perfectly healthy. There was no trace of the line of suture of the two layers of peritoneum, which was absolutely healed. When he made a small incision through the peritoneum, which would represent the top of the closed sac, about an ounce of reddish, clear, inodorous fluid escaped, not the red turbid serum characteristic of septicæmia, but perfectly bland non-irritating fluid, free from decomposition. He, however, could not help thinking that it had some share in the unfortunate result, combined with the bad condition of the kidneys. Nearly every sample of urine she passed during her stay in the hospital was examined, and every one had contained albumen and was cloudy. The sp. gr. never rose above 1015 degrees, no matter how much she passed in a day. Even when reduced to ten ounces it was still 1015 degrees. He took out two stitches at the lower angle of the wound to see whether there was any collection of fluid, but there was no sign of it, and it really looked as if there was nothing the matter. If he had drained, he thought it would have added one small chance to the patient's life. The kidneys weighed eleven and a half ounces. The case was interesting on account of the enormous size and the character of the tumour. It weighed 64 pounds. Thirty sutures were required to close the wound, which must have measured two feet, and the operation lasted two hours and a-half. He could not help regretting that the case had not come under his hands before the kidneys had become diseased, for then the patient would have had an excellent chance.

Mr. TAIT explained that he was the surgeon who had opened the abdomen in 1881. The patient came to him with an abdominal tumour, the nature of which was not very clear. He made an effort to remove it, but the peritoneum was spread right over the brim of the pelvis in every direction, extending a very small distance above the pelvis. That was enough to prevent anyone digging it out. He had, moreover, found a note, the only note which was clear about the operation, that

the tumour presented the appearances of malignancy, and so the abdomen was closed. Enormous veins passed over it in every direction, and it was covered with nodules which had a fungus feel. Three or four years after he had been written to about the case on two occasions and had replied that he considered it to be of a malignant nature. It was clear now that his view was quite wrong, but he could not refrain from expressing his regret that Dr. Bantock had not been more successful. In his opinion, the cause of death was referable to the kidneys only, and not to the operation.

Dr. FANCOURT BARNES showed a fibroid tumour weighing 4 pounds, removed by him ten days ago. The patient had been sent to him by Dr. Marsh, of Yeovil. She was married, aged 30, and had one child 7 years ago. The tumour was connected with the fundus uteri by a thick pedicle composed of uterine tissue. This he transfixed and tied, and returned into the abdomen. The patient had recovered without a bad symptom. He thought it better to tie and return the pedicle, when possible, than to treat it by the clamp. As the left ovary was enlarged and cystic, he had removed that at the same time as the fibroid tumour.

The Society then adjourned.

RECEIPTS AND EXPENDITURE FOR THE YEAR ENDING DECEMBER 31, 1888.

Dr.	£	s.	d.	£	s.	d.
To Cash in hand January 1st .	32	11	7			
„ Balance at Bank . . .	304	4	10			
„ Caledonian allotment Stock	5	0	0			
				341	16	5
„ Subscriptions received . .		.	.	534	17	9
„ Interest on Investment in Caledonian Railway Stock .	8	0	5			
„ Sale of Caledonian Stock (£200)	226	1	10			
„ Interest on £250 on deposit	0	14	10			
				234	17	1
Received for Copy of Journal .	.	.	.	0	2	6
				£1111	13	9

Cr.	£	s.	d.	£	s.	d.
By Rent	.	.		56	14	0
„ Refreshments	.	.		25	5	0
„ Printing and publishing Journal (7 Numbers) . .	.	.		383	3	11
„ Printing and Stationery .	.	.		12	4	3
„ Postage	.	.		34	17	6
„ Engravings	.	.		72	4	6
„ Reporting	.	.		17	6	6
„ Furniture for Library . .	.	.		10	0	0
„ Audit £4 8 0 and Bank charges 7s. 5d. . . .	.	.		4	15	5
„ Placed on deposit . .	250	0	0			
„ Caledonian allotment Stock .	5	0	0			
„ Balance in hand . . .	240	2	8			
				495	2	8
				£1111	13	9

We hereby certify that we have examined the above accounts and all the vouchers in connection therewith, and have found them correct.

January, 1889.

(Signed) HEYWOOD SMITH } *Auditors.*
F. A. PURCELL }

REVIEWS.

Lectures on Ectopic Pregnancy and Pelvic Hæmatocele. By LAWSON TAIT, F.R.C.S. Edin. and Eng., LL.D., Professor of Gynæcology in Queen's College, Birmingham; Surgeon to the Birmingham and Midland Hospital for Women, Birmingham. The "Journal" Printing Works, New Street, 1888.

This work is a timely protest against what we can only term the muddling and mischievous treatment of this dangerous condition, still resorted to by many gynæcologists. Mr. Tait says, "After much consideration I have adopted the phrase *ectopic pregnancy*, designed originally by Dr. Robert Barnes, as by far the best which can be applied to the curious and most interesting displacement which we have first to consider, for it gives a convenient and very complete definition without expressing any theoretical explanation of the condition. The cavity of the uterus is the proper *place* for any gestation, but a gestation may be *ectopic* without being *extra-uterine*, as in what has been called the interstitial or tubo-uterine variety. I believe we might call all ectopic gestations 'tubular pregnancies,' but that would be hardly fair to those who still cling to the belief in the occurrence of the ovarian kind. 'Ectopic' includes them all, and therefore I adopt it."

The object Mr. Tait has in view in these lectures is to draw the attention of the medical profession to the unsatisfactory mode of dealing with cases of ectopic gestation.

Mr. Tait advocates abdominal section when extra-uterine pregnancy has been determined, equally when the child is alive and near the full term or when it is dead.

As regards the treatment of extra-uterine gestation by

electricity, the author characterises it as positively ghastly, and illustrates it by the following case reported by Dr. Matthews Duncan in the Bartholomew Hospital Reports in 1883. "Electricity was first tried in the form of an induced current, as strong as the faradic coil in a Coxeter's combined battery could give. A carbon disc electrode, in connection with the positive pole, was placed over the tumour on the left side, and a gum-elastic electrode, with a nickel-plated end, was passed into the vagina towards the left side and connected with the negative pole. A current was alternately passed and withheld during periods of two seconds for about a minute and a-half. A continuous current of forty modified Leclanché elements was then passed for a space of six minutes, producing slight vesication of the skin and a rough dried surface in the vagina. The fœtal heart was heard beating the same evening. On the following day two grains of morphia were injected into the amniotic cavity. An hour afterwards the mother began to feel drowsy, and her pupils became slightly contracted. It was thought advisable to draw off the liquor amnii, which was done through the abdominal wall by aspiration, eight ounces being removed. The fœtal heart still continuing to beat, Dr. Duncan, five days later, injected a quarter of a grain of morphia into the *body of the fœtus*, to the depth of two inches, at the spot where the fœtal heart was heard plainest. The operation was twice repeated at intervals of two days, but without the desired result. It was decided now to try and destroy the fœtus by galvano-puncture. Two insulated electrolysis needles were passed into the tumour for an inch and a-half, and connected with the negative pole of a battery composed of modified Leclanché elements, a carbon disc-shaped electrode connected with the positive pole being applied over the tumour externally. A current from forty cells of the battery was passed for six minutes with occasional interruptions. After the operation the fœtal heart could still be heard beating, but more slowly. Four days later Dr. Duncan, having heard the fœtal pulsation, drew off the liquor amnii with the aspirator,

and then injected m. xiij. of equal parts of water and liq. morph. hypod. into the fœtus just over where the heart was heard. After this the fœtal heart could not be heard. The patient died two days subsequently. At the autopsy, twenty-six hours after death, the contents of the cyst were found very fœtid, and the soft parts of the fœtus itself were for the most part as if completely macerated, the bones being exposed. Almost all the internal organs were diffused in the surrounding fluid, or were diffluent. The heart was scarcely recognisable."

Mr. Tait says such a record is positively discreditable to the art we practise; a series of ineffectual experiments were tried upon this poor mother and child, one after another, involving fearful suffering and finally double death, when, probably, both lives might have been saved by following the ordinary rules of surgical proceedings. We cordially commend a perusal of Mr. Tait's valuable work. It discusses the whole subject historically, pathologically, and clinically, in full detail.

Leçons de Gynécologie Opératoire. Par VULLIET, Professeur à la Faculté de Médecine de Genève; Ex-chirurgien de la Maternité; Membre correspondant de la Société Gynécologique de Paris, &c.; et LUTAUD, Professeur libre de Gynécologie a l'Ecole pratique; Médecin adjoint de Saint Lazare; Membre fondateur de la Société Gynécologique de Paris, &c. Avec 180 figures intercalées dans le texte. Paris: Librairie J. B. Baillière et Fils, 19, Rue Hautefeuille, 1889.

Professor Vulliet of Geneva, and Dr. Lutaud of Paris, have for some time past been associated together in giving a yearly course of practical demonstrations on operations in diseases of women. They have contrived a mannequin in which the various genital organs, both internal and external, can be detached and replaced in their normal relations. In the work before us they have embodied the lectures on various

operations which can be practised on this mannequin. The chapter on uterine dilatation describes the various methods employed by gynæcologists, and describes in detail the new procedure of Dr. Vulliet. This consists of introduction into the uterus of tampons of cotton wool impregnated with iodioform. The tampons are left *in situ* for forty-eight hours; they occasion no inconvenience, and the patients are not necessarily confined to bed. Dr. Vulliet states that the uterus exhibits a tolerance of the tampons which is surprising. The operations more especially dealt with, and illustrated by many new and original drawings, comprise most of the plastic operations on the cervix, vagina, and perinæum. It reflects great credit on the authors, and will abundantly repay a study of it by all practitioners who may be engaged in the special treatment of diseases of women.

The Pathology and Treatment of Displacements of the Uterus. By Dr. B. S. SCHULTZE. Translated by JAMESON A. MACAN, M.A., M.R.C.S., and edited by ARTHUR V. MACAN, M.B., M.Ch., Master of the Rotunda Hospital, Dublin. London, H. K. Lewis, 1888.

This work will be welcome to those interested in gynæcology as presenting the opinions and practice of the man who claims to speak with especial authority upon its subject matter. Much of Schultze's teaching has long been familiar to English practitioners; some of his views are, if not altogether original, at any rate illustrated in an original manner, and some are fairly open to criticism.

The first observation that strikes us is the want of dates to indicate when the original book was written. This renders comparison with the works of other authors difficult.

Chapter I. sets forth the "normal position of the uterus." After describing the attachments of the uterus, he says: "A certain degree of mobility and a possibility of spontaneous yet considerable variations are essential characteristics." He

insists upon this because "up to the present time it is constantly taught, both orally and in books, that the position of the uterus in the pelvis is almost constant." We are under the impression that in this country the range of mobility of the uterus is well understood. He points out very properly that we must distrust diagrams taken from frozen sections. In the dead body the relative position of the pelvic structures is no longer the same as in the living body in which vital forces are in action. He describes the method he has adopted to discover, and to represent on diagrams the relative positions of the organs by bimanual palpation and the goniometer. He indicates with apparent precision the position of the ovaries, and shows how this can be determined by help of examination of vagina and rectum.

In the chapter on the symptoms and diagnosis of displacements, our author dwells upon the frequency with which some complication exists with the displacements, thus confusing the elements of diagnosis. Hence many who recognise the complications are apt to regard the displacements as of little importance, and attribute to the complications (which we submit may be secondary) the symptoms of the displacement itself. "This view," he pertinently observes, "has naturally been most acceptable to those physicians who have had least opportunity for gynæcological study." It is so easy to say, "There is nothing the matter." The logical conclusion is to defer the interpretation of the subjective symptoms until we have made a thorough objective examination. Schultze does not favour the use of the sound. Those who are well versed in bimanual examination, he says, will agree with him in limiting its use. It is very true that skilled tact may commonly dispense with the sound. But it may be doubted if the best skill has ever been acquired without the use of the sound as an educational aid.

A very good reason is given for restoration of a torn perinæum, independently of the motive to preserve the position of the uterus. The gaping condition of the genital canal leaves the way open to the dust of the streets and atmospheric infection, and thus leads to catarrh, metritis, and perimetritis.

According to our experience, the author exaggerates the frequency of parametritis and perimetritis as causes of, or complications with, displacements. We very rarely indeed find a case of retroversion or retroflexion which is not reducible. An explanation may perhaps be found in the differing fields of clinical observation. It would certainly appear, from the history of German obstetric as well as gynæcological practice, that blennorrhagia is more frequent in the fields from which our German *confrères* gather their material.

His definition of anteversion and anteflexion is sound. Anteversion exists when the uterus, extended in shape, and more than normally stabile, lies with its fundus forwards. In like manner anteflexion exists when the fundus, lying forwards, is permanently fixed. We cannot, however, accept unreservedly the statement that the most frequent cause is cicatricial contraction in the posterior segment of one or both broad ligaments, which involves the rule that treatment must be directed against the parametitis posterior. The illustrations of Graily Hewitt's cradle pessary are given.

Retroversion and retroflexion are defined in a similar manner. Then again prominence is given to fixation of the cervix; but he admits that about 90 per cent. of all retroflexions arise from relaxation of the folds of Douglas. The treatment is bimanual reposition, with subsequent retention by means of a vaginal pessary. Two forms of pessary recommended are peculiar. One is the figure of eight. This is made by twisting an oval celluloid ring. The vaginal portion is received in the upper opening. The other form is the sledge-shaped pessary, specially useful when the floor of the pelvis is relaxed.

One dogma calls for remark. "There is still," says our author, "a very widespread misconception that the uterus can be brought out of an anomalous position into the normal one by the pessary. This action was specially claimed for the Hodge-pessary. *No pessary in existence can do this.* The normal position must first be restored bimanually, a pessary may afterwards retain it." This and the whole tenor of the

work proves that the author has failed to grasp the true action of the Hodge-pessary. This action depends upon strict appreciation of the sustained and gradual leverage power. The vicious leverage-action of the uterus, when its normal position is impaired, is to be corrected by such adaptations of artificial leverage that the uterus forming one lever with its artificial support is enabled to respond to the normal motive power. A well-adapted Hodge-pessary is commonly enough in the case of simple retroversion. In the case of retroflexion, where the fundus is locked under the promontory, bimanual reposition should precede the adjustment of the pessary. But even in such cases, where bimanual reposition cannot be effected, a well-designed padded pessary will often gradually restore the uterus to position. It is not a little strange that throughout the work the word "lever" is barely if ever mentioned. Yet leverage is the fundamental condition of etiology and treatment.

And here a word may be not out of place on the question as to the best posture of the woman when performing reposition. Schultze, like most, if not all, German teachers, insists upon the dorsal posture for examination and reposition. No doubt this posture is essential in many cases to make out a full and accurate diagnosis. But the left lateral posture has advantages of its own, which it is folly to neglect. Examination in both ways is often desirable; and when the point is to reduce the uterus, the left lateral posture has distinct advantages. The patient lying a little forwards, the index of the left hand applied to the fundus of the uterus on its right side, aided by counter pressure from the hand outside, pushes the fundus across and under the promontory to the left. In this way the fundus is released with comparative facility from its imprisonment, and then it is carried forward in the axis of the pelvis. This manœuvre cannot be so well carried out in the dorsal posture, in which gravity and the pressure of the abdominal organs oppose.

The most defective chapter is the concluding one on Inversion. Probably the author's personal experience of this

condition is very limited. He doubts upon the indications and operations for amputation. A fair knowledge of the methods of reposition in use in this country might have shown him that amputation is never, or hardly ever, called for. It is true he refers to Tyler Smith's cases of reposition by the elastic bag. This practice laid the foundation for the rational and effective conservative treatment now in vogue. But Schultze ignores the successful and scientific extension of this principle introduced by Robert Barnes, of sustained elastic pressure by means of a padded stem, and the modification by Aveling in adding to the stem the perinæal curve. With these means, amputation is no longer justifiable.

But allowing for all necessary criticism, the book is one of sterling merit and usefulness. We feel grateful to the President of the British Gynæcological Society for introducing it to the English readers. Nor can we finish our task without expressing unqualified commendation of the manner in which the translation is written. The English rendering is smooth, elegant, correct, and scholarly—qualities not always found in translations of medical works from the German.

SUMMARY OF GYNÆCOLOGY, INCLUDING OBSTETRICS.

BULLETIN GENERAL DE THERAPEUTIQUE.

A Series of Thirty-five Ovariotomies. By M. TERRILLON.

This is the fourth series published by M. Terrillon, and commenced in November, 1887, terminated in June, 1888. Three of the thirty-five patients operated on died, two of shock, thirty-six and forty-eight hours after the operation; while the third died eighteen days after of strangulated inguinal hernia. No fatal cases of peritonitis are recorded, nor were any symptoms of septicæmia ever present. The nature of the tumours operated on is shortly stated. Twenty-six were ovarian, only six of which were easy of removal, the remaining twenty being exceedingly difficult and tedious, owing to the numerous adhesions; there were five cases of parovarian cysts and two dermoid cysts; the series was completed by the removal of two fibroids, one of which was probably a fibroma of the ovary. All the operations were *complete;* none *incomplete.* Whenever adhesions were numerous, the peritoneal cavity was washed out with warm filtered water; no ill results were ever noticed. The drainage tube has been used with decided advantage in many cases. Since publishing his first series the author has operated on one hundred and thirty cases with seventeen deaths, or a mortality of 11 per cent.

ARCHIVES DE TOCOLOGIE.

On Artificial Delivery. By Dr. LESSONA, Turin.

By artificial delivery the author means cases of delivery in which the introduction of the hands or some instrument into the genital passages is required. The conclusions arrived at

are: (1) That the retention of fœtal *débris* may be followed by consequences of the gravest character, even in cases of abortion in the early months. (2) The most serious consequence is decomposition of the retained products and consequent septicæmia. (3) To prevent any complications it is advisable to remove all retained products within twenty-four hours of the expulsion of the child. (4) The best results are to be obtained by removing all retained *débris* by the fingers or curette, with strict antiseptic precautions. (5) The presence of symptoms of septicæmia do not contra-indicate the necessity for intervention—indeed, it is an indication. (6) When septicæmia is due to the retention of portions of the caduca, or when abortion is due to endometritis, the curette should by preference be used.

A Uterine Sedative; an Emmenagogue.

By Dr. A. CORDES.

This small pamphlet is a reprint from the *Annales de Gynæcologie* for April, 1888. The author is of opinion that by the use of viburnum prunifolium and quinine abortion can either be prevented or satisfactorily ended. Viburnum prunifolium, for the prevention of abortion, has been used by the author with satisfactory results in eight cases. In all the cases the liquid extract of viburnum was used, about *four grammes* being administered during the twenty-four hours. The hæmorrhagic discharge soon ceased and the pains died away, and abortion was prevented. Quinine, on the other hand, as an emmenagogue, in cases of inevitable or incomplete abortion, is a powerful agent. Ten cases of incomplete abortion are reported; in all of them quinine, in doses of two grammes during the twenty-four hours, was used with success. In every case the uterine contractions set up by the quinine caused a speedy expulsion of the products of conception, and a rapid return to convalescence of the patient.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

Double Uterus and Vagina. By L. H. DUNNING, M.D.

The author reports a case of double vagina and uterus, and further considers the question of congenital malformations of the uterus. The case is of interest and is shortly reported. Mrs. A., aged thirty-seven years, married a few months, complained of pain during coitus, and of some abnormality of the genital organs. Menstruation was always irregular and scanty. Upon examination the external genitals were found to be normal. On separating the labia two vaginæ were found with a moderately thick septum dividing them; the septum extending from the cervix to introitus vaginæ. The right vagina was the largest. Two cervices were found at the upper end of each vagina, slightly smaller than normal. The right uterine cavity measured two inches, the left one and a half inch. Bimanually each uterus appeared of normal length, though the transverse diameter of both uteri was large. A well marked depression separated the body of each uterus. Later on the patient became pregnant in the right uterus.

The conclusions arrived at by the author regarding congenital malformations of the uterus are: (1) Congenital malformations of the uterus are of more frequent occurrence than is generally supposed. (2) The uterus bicornis is the most common malformation; 51·5 per cent. belong to this class. (3) Except in uterus bipartitus the fecundity of the woman is not diminished. (4) Difficult labour is more frequent in these cases than in those having normal uteri. (5) Abortion is most common in uterus didephys and uterus bilocularis. (6) Both sides of the uterus may be pregnant at the same time, and the fœtus in each in the same or different stages of development. (7) Disordered menstruation is common. (8) Menstruation will take place if only a small amount of mucous membrane be present. (9) Menstruation may occur simultaneously from both uteri or may alternate.

THE ARCHIVES OF GYNÆCOLOGY.

Saponaria as an Emmenagogue. By Dr. BLUMENSAADT.

The author has employed the syrup of saponaria officinalis as an emmenagogue. He has prescribed it in numerous cases of scanty menstruation and amenorrhœa with success. Saponaria is a direct emmenagogue, but unlike apiol, rue, sabine, and ergot, it is entirely harmless. Numerous cases are referred to where menstruation has soon become regular on the use of this drug. The best preparation to use is the syrup in tablespoonful doses three to ten times a day.

THE AMERICAN JOURNAL OF OBSTETRICS.

Super-involution of the Uterus following Trachelorrhaphy. By VIRGIL HARDON, M.D.

The author first brought before the profession a case of super-involution of the uterus after trachelorrhaphy in 1887. Since then he has met with a similar case, and has collected seven others from American sources. Gynæcologists in Europe do not seem to have met with this condition. Super-involution of the uterus involves three factors: (1) Congestion of the organ. (2) Failure of the muscular structure to undergo complete degeneration and replacement. (3) Excessive development of the inter-muscular tissue. The most common cause of sub-involution of the uterus is laceration of the cervix, and, according to the author, super-involution is simply the final stage of sub-involution.

Nine cases of super-involution are shortly narrated, all of which occurred after trachelorrhaphy had been performed. In the majority of cases the application of electricity to the uterus restored that organ to its normal condition.

A Unique Monstrosity. By BROOKS H. WELLS, M.D.

The author acknowledges his indebtedness to Dr. L Whaley, who kindly furnished him with notes of the case.

The monster is a married woman, twenty years of age, and the mother of one child. She belongs to the monocephalic ileadelphic class of monsters, and is believed to be the only example of this class found in man, though several instances have been found in animals. There is a single head, a well-formed body, normal upper extremities, which at the waist broadens out, and contains two umbilici. The spinal column bifurcates at the third lumbar vertebra, the two pelves being fused by their respective ilia. Each pelvis contains two limbs—thus, there are four limbs, the centre ones being small and ill-developed. The antero-posterior diameters of the pelvic outlets are two inches, the transverse diameters two inches and a half. There are two pubes, two montes veneris, two perfect sets of external and internal genital organs, two bladders, two ani and two lower intestines. The two outer limbs on which the woman walks are well-developed, though there is an equinovarus of the right limb. Micturition and defæcation are independent of each other. Menstruation is normal, and occurs in each uterus at the same time. Pregnancy took place when she was eighteen years of age in the left uterus. Owing to the pelvic contraction abortion was induced at three months and a half, the fœtus being of normal size and well developed.

A New Method of Operating for Restoration of the Lacerated Perinæum. By A. P. Dudley, M.D.

The anatomy of the pelvic floor is described, and diagrams inserted to show the relation of the pelvic fascia, the pelvic muscles, and the perinæal body to each other. The description of Dr. Dudley's operation is intended only for those cases of lacerations in which the sphincter ani is not involved, that is, for lacerations of the first and second degree.

The patient, being anæsthetised, is placed in the lithotomy position; the labia are separated, and the rectocele is drawn down by means of a tenaculum; the crest of the rectocele is then snipped as a guide to the point to which denudation of

the vaginal mucous membrane should be carried. This point is in the middle line of the posterior wall of the vagina, and is considerably higher than a horizontal line joining the remains of the hymen. Two curved incisors, one on each side, are then carried from middle line of the perinæum, at the junction of the tear and perinæum, to the remains of the hymen. The paring process is then completed by joining these two latter points with the crest of the retrocele and removing nothing but mucous membrane. The denuded surface has now the shape of a kite, the tail end of the kite being in the vagina, the head looking towards the perinæum. An important point is the method of introducing the sutures, which are of catgut, prepared in juniper, in place of carbolic oil. The first suture is placed at the tail of the kite, that is, high in the vagina; it is passed from the vaginal surface downwards to very near the middle line of the denuded surface. At this point the needle is brought out and again inserted on the opposite side of the middle line and carried upwards to re-appear again in the unpared vaginal wall, at a point opposite to that at which the needle was first inserted. It will thus be seen that the suture has a track corresponding to the letter V. This top suture is then tied, and the remaining sutures are carried in the same way from above downwards to an eighth of an inch of the median line of the denuded surface, where they are brought out, to be inserted a similar distance on the opposite side and carried upwards and outwards. The apex of the letter V is gradually widened as the level of the carunculæ myrtiformes is reached, so that the stitches in the lower part of the wound are very nearly horizontal in direction. The sutures are fastened from above downwards and iodoform is dusted over the wound, which is not touched for four days. Perfect results are claimed for this method of operation.

Hysterorrhaphy in the Treatment of Retroflexions of the Womb. By C. CARROLL LEE, M.D.

Hysterorrhaphy, or the suturing to the anterior abdominal wall of a retroflexed uterus, has been performed by the author

six times. Four of these operations have been complete successes, one has been a decided failure, while in one the result is undecided. The *technique* of the operation has already been described in the pages of the BRITISH GYNÆCOLOGICAL JOURNAL, and will not be referred to again. Certain points are, however, interesting. Dr. Lee uses for suturing fine Chinese twisted silk, rendered carefully aseptic. The sutures should not be passed through the fundus uteri, but through the proximal end of the broad ligament, so as to encircle the round ligament. When adhesions are separated, care must be exercised, and the separation be begun at the distal ends of the broad ligaments.

The cases suitable for hysterorrhaphy are limited, indications for the operation being those cases in which retroflexion exists with adhesions, which have resisted milder forms of treatment.

AMERICAN GYNÆCOLOGICAL SOCIETY.

The Thirteenth Annual Meeting of this Society was held at Washington, in September, 1888. The proceedings are shortly reported in the following paragraphs.

Palpation of the Ureters in the Female. By Dr. H. A. KELLY.

The author pointed out the importance of examining the ureters in every bladder case, especially by palpation. Inspection and catheterisation necessitated cutting into the bladder. He pointed out the valuable information to be obtained in this examination, and how the presence of calculi in the ureters could be detected, thus confirming a diagnosis which before was uncertain. He described his own method of palpating the ureters, and stated that he examined the ureters in every gynæcological case which came to him. In the discussion which followed, Drs. Polk, Byford, Baker, H. C. Coe, Bache, Emmet, and H. A. Kelly took part.

The Cause and Treatment of Urethrocele. By Dr. T. A. EMMET; read by Dr. T. DUNCAN EMMET.

Urethrocele does not result from a want of support on the part of the pelvic tissues, but is due to injury, and hence is very common in cases in which there exists extensive laceration of the cervix. The process by which urethrocele is brought about is shortly described, and the treatment advocated is the "button-hole" operation described in his text-book. Drs. Priestley (London), A. T. C. Skene, W. T. Lusk, and H. A. Kelly joined in the discussion, and Dr. T. Duncan Emmet replied for Dr. T. Addis Emmet.

The Treatment of Pelvic Abscess. By R. STANSBURY SUTTON.

The author referred only to those cases of pelvic abscess which followed cellulitis. Pelvic cellulitis may be either septic or aseptic, the latter the more frequent. In the treatment of this condition stress is laid on the importance of opening into the abscess—*per vaginam* for preference—and draining freely with frequent irrigations of the abscess cavity. Iodide of potassium is valuable when the purulent discharge has ceased. Drs. Goodell, Parrish and Gaillard Thomas agreed with the author, but Drs. Gill Wylie and Polk argued that the proper treatment was abdominal section.

The Etiology, Pathology, and Treatment of Anteflexions of the Uterus. By T. GAILLARD THOMAS.

The author classifies anteflexions thus: (1) corporeal, (2) cervical, (3) corporo-cervical, (4) irreducible, (5) reducible. He advocated the use of pessaries, especially his own or Graily Hewitt's, and in suitable cases the use of intra-uterine glass stem-pessaries. There is a tendency for these cases to relapse, and for the many changes occurring in the flexed uterus to prevent real recovery. Dr. Graily Hewitt supported Dr. Thomas, but Dr. Priestly, of London, and Dr. Goodell denied

that anteflexion set up the series of symptoms ascribed to that condition.

High Amputation of the Uterus for Cancer.

By THAD. A. REAMY.

The author selected 57 cases as a basis for his report, in which the disease did not extend beyond the cervix. Of these cases two died shortly after the operation; in 29 the disease returned, in from one to fourteen years; in 26 there was no recurrence after periods ranging from one to fifteen years. Amputation of the cervix is to be preferred to hysterectomy, as the operation is simple and attended by as good, if not better, results.

In the discussion which followed, Dr. Baker and Dr. Reamy were in favour of the high amputation; Drs. Byrne and Van de Warker, while they agreed with the author in many respects, thought the galvano-cautery preferable to the knife.

The Pressure Forceps versus the Suture and the Ligature in Vaginal Hysterectomy. By E. C. DUDLEY.

A description of the operation as performed by Dr. Dudley was given, and how he makes use of the pressure forceps to check hæmorrhage and close the wound. Sometimes twenty pairs of forceps are used in a single operation without causing any inconvenience. The forceps on the smaller blood vessels are removed in twelve hours; these and on the ligaments in 48 to 72 hours. The author claims the following advantages for his operation: (1) The operation is made short and simple. (2) Hæmostosis is prompt and reliable. (3) Turning of the cervix into the peritoneal cavity and bringing the corpus uteri into the vagina are not necessary. (4) The sloughing stump comes away much more quickly, and a clean granulating surface is left. (5) Effective drainage is secured by means of the forceps. (6) Convalescence is less complicated. (7) By this method of operating the mortality is reduced to 4 or 5 per cent.

In the subsequent discussion Drs. Henry T. Byford and Lane advocated the use of the ligature in preference to the forceps; while Dr. Hunter thought the use of the compression forceps had many advantages of the ligature.

Severe Vomiting in Pregnancy. By Dr. GRAILY HEWITT.

Vomiting was not a natural concomitant of pregnancy, nor is every pregnancy accompanied by vomiting, though vomiting is the rule. There was always a cause for the vomiting of pregnancy, *e.g.*, displacements, &c.; these should be sought for and rectified. If the measures adopted do not avail, abortion may follow.

In the discussion which followed the speakers differed much as to the real cause of the vomiting of pregnancy. Drs. Fordyce Barker, A. J. C. Skene, and Gill Wylie joined in the discussion, and Dr. Graily Hewitt replied.

Treatment of Chronic Endometritis by Drainage with Gauze. By W. M. POLK.

The causes and varieties of endometritis were described. When the cause is discovered and removed, a cure is effected; but in those cases in which a cause cannot be found, drainage with antiseptic gauze is a valuable method of treatment. The following rules must be observed: Anæsthetise the patient, dilate the cervix, wash out the uterus with a double catheter, pack, but not tightly, the uterus with strips of iodoform gauze, remove the gauze at the end of twenty-four hours, wash out the uterus and repack. Curetting is seldom needed. Iodoform gauze is especially valuable in endometritis hæmorrhagica. No discussion ensued owing to the lateness of the hour.

The Dangers of Galvano-Puncture in Pelvic Tumours. By E. VAN DE WARKER.

The author advocated the use of electricity in certain forms of pelvic tumours, but had seen bad results follow its

use in some cases. Three instances are recorded. In the first galvano-puncture resulted in fever and abscess formation, which had developed in an abdominal extension of the tumour. In the second case cystiform degeneration of the tumour took place, and in the third case a large solid tumour underwent non-purulent cystiform degeneration, and was followed by the death of the patient. The author concludes as follows: (1) That galvano-puncture of pelvic tumours must follow careful discrimination of the character of the mass. (2) Peculiar changes may be induced by the passage of the current, either septicæmic or ptomainic, which result in blood poisoning with fatal exhaustion. (3) Special diagnostic precautions must be taken to ascertain if any cystiform changes are already taking place in the mass. (4) The absence of pus in cases of low, persistent febrile reaction, with exhaustion, points to the development of some poison, possibly a ptomaine. Dr. Parvin thought there were many dangers connected with galvano-puncture of pelvic tumours and cases of cure; but Dr. Baker had not experienced any danger in galvano-puncture.

The Influence of Pregnancy on Pelvic Disease.

By J. B. HUNTER.

In this paper it was pointed out how pregnancy, at its *various* stages, affected such diseases as those of the vulva, anus, lacerations of the perinæum and cervix, and other pelvic affections. *Discussion.*—Dr. A. T. C. Skene thought many mild forms of pelvic disease disappeared during and after pregnancy. Old cases of cellulitis and perimetritis are variously affected. Ovarian displacement is frequently caused by pregnancy. Dr. Bache Emmet discouraged pregnancy in pelvic disease; displacements of uterus or ovaries are intensified by pregnancy. Dr. Cameron believed the effects of pregnancy upon disease was not sufficiently distinguished from the effects of disease upon pregnancy.

New methods of Electro-therapy in their Bearings on Gynæcological Surgery. By G. T. ENGELMANN.

Electricity was not recommended as a substitute for surgery, but it was a valuable adjurant. If carefully used, electricity is perfectly safe. In neoplasms and interstitial growths it caused a retrograde metamorphosis. In all cases vaginal puncture is the best method of treatment. *Discussion.*—Dr. H. P. C. Wilson thought this method of treatment had a great future before it. Dr. Graily Hewitt thought its application should be limited. Dr. Parrish would use it in all cases other than abscesses.

Dr. MANN showed an ovarian fœtation. No fœtus was found.

The Early Diagnosis of Ectopic Pregnancy and its Treatment. By Dr. H. T. HANKS.

In the author's opinion 95 per cent. of ectopic pregnancies can be diagnosed, and should be determined before the end of the third month with great certainty. Primarily all ectopic gestations are tubal; other varieties are not demonstrated. Two cases are reported in which electricity was used with success, especially in the second case, in which one application from a galvano-faradic battery—intensity of current not mentioned—cured the patient. In the subsequent discussion much diversity of opinion was expressed regarding the treatment by electricity. Referring to Dr. Mann's specimen, Dr. Johnstone denied that it was a case of ovarian pregnancy; but thought it was a dermoid cyst. Other speakers were Drs. Reeve, Hervey, Gill, Wylie, Engelmann, Coe, Mann and Janvrin.

INTERNATIONAL JOURNAL OF MEDICAL SCIENCES.

Paraldehyde in Obstinate Vomiting.

Dr. La Moure, in the June (1888) number of *The Albany Medical Journal*, recommends small doses of paraldehyde for

the relief of obstinate vomiting so frequently found in connection with ovarian irritation. He has also found it useful in migraine. The only objection to the drug is its disagreeable odour. The author employs the following formula:—

℞. Paraldehyde ... ... ♏ × 2
Elixir simplic: ... ... ℥i. — M.

S. One teaspoonful in a little water, repeated in half-an-hour if required.

The Frequency and Treatment of Malignant Tumours of the Ovary.

Freund, in the *Archiv. für Gynäkologie*, advises operative interference in cases of malignant tumours of the ovary, and is of opinion that the formation of metastases does not contra-indicate an operation. From the observation of ten cases which have been under his care, he concludes:—(1) Hydro-thorax is a frequent complication of malignant neoplasms, and requires no special treatment. (2) True metastases, with rich vascular supply, are to be distinguished from the small secondary growths that are commonly found scattered over the pelvic peritoneum. (3) Laparotomy, with careful attention to antisepsis, is preferable to puncture in cases of carcinoma of the peritoneum, with ascites, the result not differing from that of the same operation in chronic and tuberculous peritonitis. (4) The removal of even a portion of the growth is followed by good results.

The Vomiting of Pregnancy and Menorrhagia.

By JOHN MEREDITH, M.D.

The author narrates several instances of persistent vomiting of pregnancy which occurred in his practice, the cause of which he believes was the inhalation of sewer gas. Various methods of treatment were adopted without success, but by dilating the cervix by means of sponge tents the vomiting was checked. Several cases of menorrhagia are reported, the cause of the

menorrhagia being, in the author's opinion, in the majority of cases, the inhalation of sewer gas or drinking impure water. The cases here recorded certainly carry conviction with them, and the author is to be congratulated in calling attention to this important fact, that many cases of severe and even dangerous menorrhagia are due to unhealthy surroundings, and can be checked by careful attention to proper hygienic conditions.

Some of the most serious cases of *post-partum* hæmorrhage which the author has met with have occurred in houses in which the water supply and drainage were bad.

THE SATELLITE OF THE ANNUAL OF THE UNIVERSAL MEDICAL SCIENCES.

Treatment of Fibroid Tumours of the Uterus by Electrolysis, &c.

Dr. F. H. Martin has published an interesting article on "The Treatment of Fibroid Tumours of the Uterus by Electrolysis, &c.," and submitted the following conclusions :—

1. A means of generating a continuous current of electricity, which can be increased from 10 to 1000 milliampères in strength, is necessary in order to obtain all the benefits of the treatment.

2. Hæmorrhages from hæmorrhagic tumours can be cured by the local coagulating effect of the positive pole applied intra-uterine.

3. The intra-uterine electrode, when positive, should be of unattackable metal, conforming as nearly as possible to the size and shape of the uterine canal, and having the vaginal portion insulated.

4. When the cervical portion cannot be entered, a negative galvano-puncture should be made into the presenting part of the obstructing mass of the tumour, and an artificial canal, which is to take the place of the impenetrable uterine canal in all subsequent treatment be formed.

5. The intra-uterine electrode should in all cases be negative, unless there is hæmorrhage or excessive leucorrhœa,

when the positive pole is always required. The same patient may, however, present successive symptoms demanding the use of each pole.

6. The current should be the strongest possible, consistent with the desired therapeutic effect and the endurance of the patient.

7. Cases of intolerance of high doses arrange themselves under the three following heads: (1) hysteria; (2) enteritis; (3) acute nephritis,—prior parametritis,—the most tolerant being the deep uterine and profusely hæmorrhagic.

8. The duration of the operation should be from eight to ten minutes, according to the toleration of the patient.

9. The number of operations is necessarily dependent upon and influenced by the result to be accomplished. A severe hæmorrhage can be checked in from four to five *séances*, while a general reduction of the tumour necessitates many operations, varied according to size and location. In many cases simply a restoration to health, and a relief from the prominent and annoying symptoms must be accepted as a substitute for an actual cure.

10. The time of commencing the treatment matters but little if the tumour is not rapidly growing and no excessive hæmorrhage is present. The operation should be intermenstrual, if possible, but, if hæmorrhage is continuous, operate during the flow. The *séances* should occur two or three times a week if compatible with the endurance of the patient, and should be as regular as possible.

11. Extra-uterine puncture should be regarded only as a last resort, but every means of reaching the tumour through the uterus being impracticable, seek, if possible, to make the operation extra-peritoneal. Should this in turn prove equally unadvisable, use as a final alternative the abdominal puncture.

12. Strictest cleanliness and thorough antiseptic precautions are absolutely demanded in operations connected with this treatment.—*Journal of the American Medical Association.*

General Review of the Statics of the Normal Pelvis; combined operations for the relief of Deviations and Displacements. By L. DOLERIS.

Dr. Doléris, in this article, advocates the employment of Alexander's operation, either by itself or combined with some other surgical proceeding, as a means of curing deviations or displacements. For retroversion, complicated with retroflexion, his general method of treatment is to curette the diseased membrane, and then to shorten the round ligaments. In cases of retroversion with prolapsus, there is, as a rule, rectocele with cystocele; this class of cases he treats, curetting the uterine mucous membrane, if necessary, and then performing Alexander's operation and anterior or posterior colporrhaphy. Several cases are recorded, one of which will be given as an example. "*Case X. Mouranchon. Endometritis; retroversion; cystocele; rectocele; former total rupture of the perinæum; uterine prolapsus; curative treatment; anterior colporrhaphy; posterior colpoperinæorrhaphy; double shortening*" (*of the round ligaments*). Result, complete and permanent recovery.

A combination of operations is likewise undertaken in cases of prolapsus, either with or without deviation of the uterine axis. The author is an ardent advocate of Alexander's operation, though at one time he strongly opposed it. He has found no difficulty in performing the operation, as finding the round ligaments; he has seen no grave results following the operation, and in almost every case the result has been a complete and permanent success. He considers it advisable to do whatever operations are decided upon at one sitting, and not to expose the patient to several *séances*. In place of an intra-uterine or vaginal pessary, he uses a tampon of iodoform gauze. In conclusion, "The natural order of procedure is to perform as the case may require, in the following order:—(1) Scraping, (2) restoration of cervix, (3) anterior colporrhaphy, (4) posterior colpoperinæorrhaphy, (5) shortening of the round ligaments."

Neglected Pessaries.

At a meeting of the Vienna Gynæcological and Obstetrical Society, Dr. Habit recently narrated the case of a patient of his, 62 years old, who, neglecting his directions, left one of Leiter's vulcanite pessaries in position for a year and a-half. Such contraction of the lower parts of the vagina had taken place during that time from senile involution, that, though a small portion of the ring could be drawn into sight, the instrument slipped back again directly it was released. On the slightest increase in the tension the mucous membrane gave way and bled, and it was evident that any attempt to remove the pessary by force would lead to laceration of the vagina and perineum. The woman was poor, and it was important to spare her any operation or protracted treatment, and as it seemed necessary to remove the pessary at once, he decided on dividing it and finding, by experiment on similar instruments, that it was extremely difficult to crush or cut them, and that the vulcanite clogged the teeth of the saw, he determined to employ the galvano-cautery. Using a battery of three elements he successfully divided the ring at the lower side, and then turning it round, at the opposite one. The cut edges immediately adhered; the insertion of a sharp instrument into the cleft and the use of a little leverage separated the ring into two parts, which were easily removed, indeed, almost fell out of the vagina.

In the discussion which followed Rokitansky related a similar case, a woman of 59, who had worn a ring of hard rubber for four years. This ring was overgrown, on either side, for about two fingers' breadth, and though when he attempted to examine them with the speculum, these overgrowths gave way, the contraction and rigidity of the parts made it impossible to remove the ring until it had been divided by the thermo-cautery. Chrobrak remarked that the chain saw could be used for the purpose.—*Weiner Med. Presse*, No. 45, 1888.

In 1881, Dr. Fantl, of Krumau, was consulted by a woman of 68, who said that her catamenia had reappeared and been

continuous for the last four weeks, though they had totally ceased 12 years previously. She appeared to be very well, but in addition to the bleeding, she complained of sharp pain in her genitals, especially when she stooped or tried to sit down. On examination, Dr. Fantl found the cervix adherent to the posterior vaginal wall for one centimetre, and in the right vaginal vault his finger was met by a hard, pointed obstacle, any attempt to move which caused the patient much pain. When questioned, the patient said that, after her second and last confinement, 30 years previously, the midwife had introduced a pessary, about which she had never troubled herself; indeed, did not even know what it was made of. While Dr. Fantl was making a further examination, the loose adhesion partially gave way, and after completing the separation with his finger he removed a semi-circular plate of wood, 7-8ths of a centimeter in diameter, and 1.5 centimeter thick. No trace of the other half could be found. Some slight hæmorrhage was easily arrested by a carbolic injection, which was repeated daily for a week. The wound was then found completely healed, the cervix in the same place as before, and the uterus in moderate anteflexion. The bleeding, which was evidently caused by the projecting edge of the broken fragment, did not recur, but nothing could be learnt of the other half of the pessary, nor of when the fracture had happened.

Dr. Fantl says that it is common for the peasants in that part of the country to wear pessaries of wax for years, without ever thinking of cleaning or removing them.—*Wiener Medical Presse*, No. 52.

The editor of the *Wiener Medical Presse*, in a note, drew attention to the case published in the *New York Medical Journal* by Dr. Beckwith, of New Haven, who, while treating a woman 70 years old for diarrhœa and tenesmus, accidentally discovered a foreign body in the vagina, covered over by a chalky deposit. On examination, this proved to be a tampon of wadding, which had been inserted by a midwife 29 years previously. The vagina and cervix were carcinomatous, and the woman died soon afterwards.

CORRESPONDENCE.

MONSIEUR LE RÉDACTEUR EN CHEF DE "THE BRITISH GYNÆCOLOGICAL JOURNAL."

Revue médico-chirurgicale des maladies des femmes,
45, BOULEVARD MALESHERBES, PARIS,
4 *Janvier* 1889.

Dans le numéro de novembre 1888 de votre intéressant journal, vous attribuez à M. le Dr. J. Berruti, deux articles parus dans la *Revue médico-chirurgicale des maladies des femmes*, et dont vous donnez l'analyse *p.* 383, sous le titre : "Should abdominal hysterectomy for Uterine Fibroids be continued?" et *p.* 415, "Artificial dilatation of the Uterus as a means for evacuation of cysts of the Fallopian tubes."

Tous les articles de la *Revue médico-chirurgicale des maladies des femmes*, signés 'J. B., en 1886, 1887 et 1888 sont de moi, et je ne voudrais en rien engager la responsabilité scientifique de l'honorable Dr. J. Berruti. Je vous serais donc très reconnaissant de vouloir bien rectifier une erreur involontaire qui se comprend d'autant plus facilement que M. J. Berruti et moi nous avons les mêmes initiales.

La table des noms d'auteurs et des matières de la *Revue médico-chirurgicale des maladies des femmes* pour l'année 1888, paraîtra dans le numéro de décembre, que vous recevrez bientôt, et justifiera, s'il en est besoin, la présente rectification.

Veuillez agréer, monsieur le rédacteur en chef, avec tous mes remerciments, l'expression de ma haute considération.

JULES BATUAUD.
Interne de St-Lazare. Secrétaire de la rédaction de la "Revue médico-chirurgicale des maladies des femmes."

NOTES.

Dr. T. Duncan Emmet, in the "Transactions of the Alumni Association of the Women's Hospital, New York," writes: "As I have already hinted, gynæcology in England has lately attempted to emancipate itself from the secondary position it has hitherto held to obstetrics, and in this attempt has been partially successful, though at the cost of much bitterness, heartburnings, and angry words. The most active and decided apostles of this advanced movement are Bantock and—that greatest of laparotomists—Tait. These men, and a number of others with them, have boldly seceded from the Society of Obstetricians, and proclaimed themselves and their speciality worthy of separate recognition. The quarrel has other elements and side issues, in which mutual cause for offence has doubtless been given; "with the merits of this subject as a whole we here have certainly nothing to do, but in the one essential principle for which these seceders have fought—that gynæcology is a speciality important enough to take its stand side by side with obstetrics, ophthalmology, or any other branch of the science of medicine—the Alumni of the Women's Hospital must certainly sympathize." . . . . "We must needs, welcome, therefore, the efforts of Englishmen to separate the interests of obstetrics and gynæcology in their country, for it is the only way in which the latter science can advance, and truth can be discovered."

A Good Example.—When the British Gynæcological Society was founded, this Journal was started as the official record of its proceedings. It was recognised by the Council that the practice prevalent amongst medical societies of publishing an annual volume of Transactions did scanty justice to the authors of papers or to those who took an active part in the discussions. The practice initiated by the British Gynæcological Society of publishing in its Journal reports at short intervals, and thus of reflecting more vividly what it was doing, has been imitated by the Obstetrical Society.

We have to record with deep regret the premature death of Dr. John Chalmers. He was a Foundation Fellow of the British Gynæcological Society. Dr. Chalmers was one of the District Surgeons of the Royal Maternity Charity, and was an accomplished obstetrician. Among the various papers which he contributed to the Gynæcological Society are: "Case of sloughing of the Vagina after confinement, with Septicæmia—recovery," "Three cases of Puerperal Septicæmia, terminating in Suppuration," "Notes on a case of Placenta Prævia." Dr. Chalmers was an active member of the Society, and frequently took part in the discussions at the meetings. He was elected Vice-President in 1887.

The *Birmingham Medical Review* has, during the past sixteen years, been the representative organ of the current state of medical science and practice in the Midland District. The management of this important journal has lately undergone a change. We learn that, in order to enhance its value, and to make it more in keeping with the requirements of the present day, the size of each number has been increased from forty-eight to sixty-four pages, and at the same time the price has been reduced from twelve to six shillings per annum, post free. We congratulate the editor, Dr. Robert Saundby, on the prospect of increased success of the journal.

Dr. Fancourt Barnes' "Manual of Midwifery" for Midwives, has been translated into Burmese by the Countess Dufferin's fund.

Parts V. to XII. inclusive, of the *British Gynæcological Journal*, being out of print, full price will be paid by the publishers, Messrs. Bale & Sons, 87-89, Great Titchfield Street, W., for clean copies of those numbers.

INDEX.

PAGE

ABDOMINAL section for ruptured typhoid ulcer and for intestinal obstruction. (Bontecon) 124
Abscess, the treatment of pelvic. (Stansbury Sutton) 483
Acute psychoses following gynæcological operations (Ill.) 133
Address, inaugural, on the relations of gynæcology to general therapeutics, by Arthur W. Edis, M.D., F.R.C.P. 7
Alexander (W.), a method of treating incontinence of urine in the female in cases hitherto considered to be beyond the resources of surgery . 215
— remarks in reply 230
Amenorrhœa followed by pregnancy and delivery 417
Anteflexions of the uterus, the etiology, pathology, and treatment of. (Gaillard Thomas) 483
Antipyrin in painful uterine contractions, the action of. (Chouppe) . . 142
— in the treatment of dysmennorrhœa. (Chéron) 382
— on the use of subcutaneous injections of, in labour. (Fanchon) . . 427
Aveling (J. H.), the diagnosis and treatment of early extra-uterine gestation 24
— remarks in reply 63
— remarks in discussion on Dr. R. T. Smith's case of fibroid treated by electrolysis. 71
— — in discussion on Dr. Inglis Parson's paper on the action of the constant current on fibroid tumours 171
— — in discussion on Dr. Bell's paper on intra-uterine medication . . 201
— — in discussion on hermaphrodite exhibited by Dr. Fancourt Barnes . 208
— — in discussion on Dr. Alexander's method of treating incontinence of urine in the female in cases hitherto considered to be beyond the resources of surgery 228

BANTOCK (G. GRANVILLE), blood-cyst of the ovary (shown) . . . 300
— blood-cysts of the ovary, appendages removed for fibroid tumour and hæmorrhage (shown) 1
— remarks in reply 6
— fibroid tumours removed by supra-vaginal hysterectomy, two cases (shown) 463
— — — — — — — — 233
— — — — from the fundus uteri after dilatation of cervix (shown) . 359
— — — two cases (shown) 299

PAGE

Bantock (G. Granville), hydronephrosis and pyonephrosis removed by abdominal section (shown) 360, 365
— multilocular ovarian tumour (shown) 301
— — — — with twisted pedicle (shown) 434
— pyosalpinx (shown) 433
— remarks in reply 438
— several uterine appendages, exhibiting many forms of disease (shown) . 184
— remarks in reply 187
— tubal pregnancy, ruptured (shown). 336
— remarks in reply 345
— remarks in discussion on Dr. Inglis Parson's paper on the action of the constant current on fibroid tumours 155
— — in discussion on Dr. Bell's paper on intra-uterine medication . . 200
— — in discussion on hermaphrodite exhibited by Dr. Fancourt Barnes . 210
— — in discussion on Dr. Alexander's method of treating incontinence of urine in the female in cases hitherto considered to be beyond the resources of surgery 228
— — in discussion on Mr. Bland Sutton's report on ovarian dermoids . 247
— — in discussion on Dr. Fancourt Barnes' case of chronic inversion of the uterus 261
— — in discussion on Mr. Lawson Tait's paper on the influence of removal of the uterus and its appendages on the sexual appetite. 314
— — in discussion on Dr. R. T. Smith's case of dermoid tumour of the ovary. 319
— — in discussion on Péan's operation for the removal of a fibroid uterus . 321
— — in discussion on Dr. Rutherfoord's case of uterine fibroid treated by electricity 334
— — in discussion on Dr. Inglis Parson's case of vicarious menstruation 349, 350
— — in discussion on Mr. Bland Sutton's report on ovarian cysts . . 351
— — in discussion on Dr. R. T. Smith's case of ovarian tumour with twisted pedicle 368
— — in discussion on Dr. Fancourt Barnes' case of calcified fibroid tumour 430
— — in discussion on washing out the peritoneum 437
— — in discussion on Dr. Fenton's syphon arrangement for washing out the abdominal cavity 441
— — in discussion on Dr. Heywood Smith's case of removal of the appendages 446
— — in discussion on Dr. Mansell Moullin's case of papillary cyst of the hilum. 449
— — in discussion on the President's case of uterine polypus . . . 451
— — in discussion on Dr. Savage's case of pyosalpinx 455
— — in discussion on pyosalpinx 461
Barnes (Fancourt), calcified fibroid tumour (shown) 429
— remarks in reply 433
— fibroid tumour removed by abdominal section (shown) 466
— hermaphroditism, two cases of (shown) 205, 212, 231
— inversion of the uterus, case of complete chronic 258
— remarks in reply 263

PAGE
Barnes (Fancourt), ovariotomy in aged people 127
— pyosalpinx (shown) 185, 188
— remarks in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 63
— — in discussion on Dr. R. T. Smith's case of fibroid treated by electricity 71
— — in discussion on Dr. Inglis Parson's paper on the action of the constant current on fibroid tumours 170
— — in discussion on Mr. Lawson Tait's paper on the influence of removal of the uterus and its appendages on the sexual appetite . . . 315
Barnes (Robert), remarks in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 46
— — in discussion on hermaphrodite exhibited by Dr. Fancourt Barnes . 211
— — in discussion on Dr. Rutherfoord's specimen of infantile uterus . . 232
— — in discussion on Dr. Bantock's case of uterine fibroid 234
— — in discussion on Dr. Rutherfoord's case of uterine fibroid treated by electricity 333
— — in discussion on Dr. Bantock's cases of extirpation of the kidney . 363
— — in discussion on Dr. R. T. Smith's case of ovarian tumour with twisted pedicle 369
— — in discussion on Dr. Fancourt Barnes' case of calcified fibroid tumour. 432
— — in discussion on Dr. Bantock's case of pyosalpinx 437
— — in discussion on Dr. Fenton's syphon arrangement for washing out the abdominal cavity 441
— — in discussion on the President's case of uterine polypus . . . 451
Bell (Robert), intra-uterine medication 189
— remarks in reply 203
Bichloride of mercury, fatal intoxication by dilute solutions of. (Steffeck) . 146
Burford (G. H.), remarks in discussion on Dr. Inglis Parson's paper on the action of the constant current on fibroid tumours. 169, 174

CÆSARIAN operations, six self-inflicted, with recovery in five cases. (Harris) 136
— section, the improved, with the report of a successful case. (Garrigues). 279
— — (Delassus) 416
— sections. (Wilson) 85
Cervical laceration, the etiological relation of, to uterine disease. (Wells) . 284
Cervix uteri, laceration of the. (Wæggerath) 293
— — rapid dilatation of the. (Bond) 123
Chalmers (John), remarks in discussion on Dr. Savage's case of purulent peritonitis 69
— — in discussion on Dr. Bantock's case of ruptured tubal pregnancy . 343
Cicatricial tissue in the angles of the lacerated cervix, on the influence of. (Moseley) 289
Colloid carcinoma of the cæcum. 404
Compendium douche, or invalids' self-help. 294
Craniotomy justifiable, Is? (Readman) 377
Curette for the relief of hæmorrhage due to uterine fibroids. The use of the. (Coe) 129
Cystic disease of the cervix and endometrium. (R. T. Smith) 248
Cystitis, treatment of chronic, in the female. (Emmerling) . . . 424

PAGE

DELIVERY, on artificial. (Lessona) 476
Dermoid cyst, multilocular, suppuration, operation, death. (Cox) . . 287
Dickinson (T. Vincent), remarks in discussion on Mr. Bland Sutton's report on ovarian dermoids 248
— — in discussion on Dr. Fancourt Barnes' case of calcified fibroid tumour 431
Dolan (Thomas M.), remarks in discussion on Dr. Bantock's case of ruptured tubal pregnancy. 344
Drainage tubes after ovariotomy. (Taft) 424
Dysmenorrhœa. (Amand Routh) 276

EDIS (ARTHUR W.), address, inaugural, on the relations of gynæcology to general therapeutics 7
— fibroid polypi, two cases (shown) 450
— ovaries showing commencing cystic disease removed for uterine hæmorrhage (shown) 305
— parovarian or broad ligament cyst (shown) 355
— uterine fibroid removed by supra-vaginal hysterectomy (shown) . . 304
— — — — post-mortem (shown) 345
— remarks in discussion on specimens exhibited by Dr. Bantock. . . 4
— — in discussion on the cysts of the labia minora exhibited by Dr. R. T. Smith 7
— — in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 59
— — in discussion on Dr. Savage's case of purulent peritonitis . . . 68
— — in discussion on Dr. Bantock's specimen of diseased uterine appendages 186, 188
— — in discussion on hermaphrodite exhibited by Dr. Fancourt Barnes 206, 211
— — in discussion on Dr. Purcell's case of kolpo-hysterectomy . . . 215
— — in discussion on Dr. Rutherfoord's specimen of infantile uterus. . 232
— — in discussion on Dr. Bantock's case of uterine fibroid . . . 234
— — in discussion on Dr. R. T. Smith's paper on cystic disease of the cervix. 257
— — in discussion on Dr. Fancourt Barnes' case of chronic inversion of the uterus 260, 262
— — in discussion on Dr. Rutherfoord's paper on hydrastic canadensis . 271
— — in discussion on Péan's operation for the removal of a fibroid uterus 321, 332
— — in discussion on Dr. Rutherfoord's case of uterine fibroid treated by electricity 332
— — in discussion on Dr. Bantock's case of ruptured tubal pregnancy . 343
— — in discussion on Dr. Bantock's cases of extirpation of the kidney . 364
— — in discussion on Dr. Fancourt Barnes' case of calcified fibroid tumour 430
— — in discussion on Dr. Heywood Smith's case of removal of the appendages 446
— — in discussion on Dr. Savage's case of pyosalpinx 450
Ectopic pregnancy, the early diagnosis of and its treatment. (Hanks). . 487
Elastic ligature in myotomy, and in supra-vaginal amputation. (Kuhn) . 146
Electricity in gynæcology. (Lapthorn Smith) 423

PAGE
Electrolysis in diagnosis. (Gehrung) 426
Electro-therapy, new methods of, in their bearings on gynæcological surgery. (Engelmann) 487
Embryotomy, case of. (Wilson) 87
Endometritis, treatment of chronic, by drainage with gauge. (Polk) . . 485
Extra-uterine gestation, laparotomy for. (Fowler) 135
— — — the diagnosis and treatment of early. (Aveling) 24
— — — (Morison) 419

FENTON (HUGH), syphon arrangement for washing out the abdominal cavity (shown) 440
— remarks in reply 442
— remarks in discussion on Dr. R. T. Smith's case of ovarian tumour with twisted pedicle 370
— — in discussion on Dr. Fancourt Barnes' case of calcified fibroid tumour 431
Fenwick (Bedford), remarks in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation . . . 63
— — in discussion on Dr. Rutherfoord's case of fibroma of the nympha . 448
Fibroid, notes of a case of uterine, treated by electricity. (Rutherfoord) . 323
— tumours of the uterus, report of fifteen cases treated by galvanism. (Martin) 385
— — — — — treatment of, by electrolysis. (Martin) 489
— — the action of the constant current on. (Inglis Parsons) . . . 71
— — treatment of, by electricity. (Scott) 284
— — — — — — (Skene Keith) 373
Fibroids, should abdominal hysterectomy for uterine, be continued? (Berruto) 383
Fibro-myoma, subserous, of the cervix uteri 410
Fitzgerald (C. Egerton), remarks in discussion on Dr. Fenton's syphon arrangement for washing out the abdominal cavity 441

GALVANISM of the sympathetic for ovaritis. (Hulbert) 422
Galvano-caustic chemical currents of high intensity, the danger of. (Danion) 384
— puncture, the danger of, in pelvic tumours. (Van de Warker) . . 485
General review of the statics of the normal pelvis, combined operations for the relief of deviations and displacements. (Doleris) 491
Grigg (W. Chapman), remarks in discussion on Mr. Lawson Tait's case of pyosalpinx 459

HÆMATOMA of the vulva in the non-pregnant. (Himmelfarb) . . . 293
Hæmorrhage in uterine fibro-myomata, the treatment of, by hydrastis canadensis. (H. T. Rutherfoord) 263
Harvey (R.), remarks in discussion on Mr. Lawson Tait's paper on the influence of the removal of the uterus and its appendages on the sexual appetite 314, 317
High amputation of the uterus for cancer. (Reamy) 484
Hybrid gonorrhœal infection in women. (Bumm) 140
Hydramnios, a contribution to the study of. (Mantel) 291

PAGE

Hydrastis canadensis, the treatment of hæmorrhage in uterine fibro-myomata by. (H. T. Rutherfoord) 263
Hysterorrhaphy. (Kelly) 281
— in the treatment of retroflexions of the womb. (Lee) 481

IMLACH (FRANCIS), remarks in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation . . . 42
— — in discussion on Dr. Inglis Parsons' paper on the action of the constant current on fibroid tumours 170
Incontinence of urine in the female, a method of treating, in cases hitherto considered to be beyond the resources of surgery. (W. Alexander) . 215
Intra-uterine medication. (Robert Bell) 189
Inversion of the uterus, a case of. (Le Fort) 380

JESSETT (F. BOWREMAN), remarks in discussion on Dr. Bantock's cases of extirpation of the kidney 364

LACERATION of the cervix uteri. (Wæggerath) 293
Laparotomy for extra-uterine pregnancy. (Fowler) 135
— for tubercular pyo-salpingitis. (Jeannel) 145
— in the treatment of peritonitis. (Podrez) 144

MACAN (ARTHUR V.), remarks in discussion on Dr. Savage's case of purulent peritonitis 68
Mackern (John), remarks in discussion on Dr. Bantock's cases of extirpation of the kidney 363
Menorrhagia, the treatment of, by vaginal injections of warm water. (Nivert) 380
Mitral stenosis and the third stage of labour. (Berry Hart) 375
Monstrosity, a unique. (Wells) 479
Moullin (J. A. Mansell), dermoid tumour of the ovary (shown) . . . 345
— papillary cyst of the hilum of the ovary (shown) 449
— remarks in discussion on the cysts of the labia minora, exhibited by Dr. R. T. Smith 6
— — in discussion on Dr. Inglis Parsons' paper on the action of the constant current on fibroid tumours 173
— — in discussion on Dr. Bell's paper on intra-uterine medication . . 202
— — in discussion on Dr. Alexander's method of treating incontinence of urine in the female in cases hitherto considered to be beyond the resources of surgery 230
— — in discussion on Mr. Lawson Tait's paper on the influence of removal of the uterus and its appendages on the sexual appetite. . . . 316
— — in discussion on Dr. Rutherford's case of uterine fibroid treated by electricity 332
— — in discussion on Mr. Lawson Tait's case of pyosalpinx . . . 458
Multiple abscesses in suckling children. (Routland) 141
Murphy (James), sarcoma of the ovary (shown) 320
— uterus removed by Péan's operation (shown) 321
— remarks in reply 322
Myxoma of the chorion, or vesicular mole. (More Madden) 412

PAGE

NON-OXYGENATION of the maternal blood, effects of, upon the fœtus. (Charpentier) 419

OBESITY in young women, influence of upon the menstrual and reproductive functions. (Currier) 290
Obituary Notices:
Dr. George Thompson Gream 297
Dr. John Chalmers 496
Oliver (J.), Notes on Diseases of Women (review) 120
Ovarian cysts. (Bland Sutton) 356
— — intra-ligamentary. (Goodell) 147
Ovarian tumours. (Darling) 139
Ovariotomies, a series of thirty-five. (Terrillon) 476
Ovariotomy. (Terrillon) 143
— and pregnancy. (Terrillon and Valat) 427
— in a woman aged eighty years. (Owens) 88
— in aged people. (Fancourt Barnes) 127
Ovary, the frequency and treatment of malignant tumours of the. (Freund). 488
Ovulation and menstruation, a research into the coincidence of. (Lawson Tait) 89

PARALDEHYDE in obstinate vomiting. (La Moure) 487
Paralysis and other neuroses in uterine disease. (MacBride) . . . 423
Paralysis of the sciatic nerve from compression during labour. (Vinay) . 380
Parsons (J. Inglis), a case bearing on vicarious menstruation . . 347, 350
— on the action of the constant current on fibroid tumours 71
— remarks in reply 175
— — in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 40
— — in discussion on Dr. R. T. Smith's case of fibroid treated by electrolysis 70
— — in discussion on Dr. Alexander's method of treating incontinence of urine in the female, in cases hitherto considered to be beyond the resources of surgery 230
— — in discussion on Dr. Rutherfoord's paper on hydrastis canadensis . 270
Pelvic cellulitis, on the differentiation of. (Goffe) 289
— peritonitis. (Eastman) 421
Perforation or Cæsarian section. (Wyder) 141
Pessaries, neglected. (Habit) 402
Perinæorrhaphy, Tait's method. (Sanger) 141
— on. (Heiberg) 282
Perinæum, a new method of operating for restoration of the lacerated. (Dudley) 480
Peritonitis, laparatomy in the treatment of. (Podrez) 144
— salines in, following abdominal section. (Baldy) 124
Persistence of the catamenia during pregnancy. (Saint-Moulin) . . . 417
Pregnancy, the influence of, on pelvic disease. (Hunter) 486
Presentation, the cause of head downward. (Foulis) 420

PAGE

Pridham (C. W.), remarks in discussion on Dr. Bell's paper on intra-uterine medication 203
Primary tumours of the broad ligaments with a table of seventeen cases. (Bayard Holmes) 125
Puerperal septicæmia due to impure atmosphere, some cases of. (Underhill) 277
Purcell (F. A.), sarcoma of the breast (shown) 442
— remarks in reply 443
— sarcoma of the ovary 353
— sixth case of kolpo-hysterectomy (specimen shown) 213
— remarks in discussion on Péan's operation for the removal of a fibroid uterus 322
Psychoses following operations upon the female genital organs. (Werth) . 418

RASCH (A. A. F.) remarks in discussion on Dr. Fenton's syphon arrangement for washing out the abdominal cavity 440
Reeves (Henry A.), remarks in discussion on Dr. Inglis Parsons' paper on the action of the constant current on fibroid tumours 169
Relations of gynæcology to general therapeutics. Inaugural address by Dr. Edis 7
Report on Dr. Bantock s specimens of ovarian dermoids (J. Bland Sutton) . 235
— treasurer's, for 1888 (Dr. Bantock) 467
Reviews:
Notes on Diseases of Women. By James Oliver, M.D., F.R.S.Ed. . 120
On Gonorrhœal Infection in Women. By W. Japp-Sinclair, M.A., M.D. 121
A Practical Text-book on the Diseases of Women. By Arthur H. N. Lewers, M.D. 272
Cancer of the Uterus. By John Williams, M.D. 272
Anæsthetics: their Uses and Administration. By Dudley Wilmot Buxton, M.D., B.S. 273
A New Contribution to the History and Etiology of Spondylolisthesis. By Franz Ludwig Neugebauer, M.D. 371
Curvature of the Spine. By E. Noble Smith, F.R.C.S. . . . 372
Lectures on Ectopic Pregnancy and Pelvic Hæmatocele. By Lawson Tait, F.R.C.S. 468
Leçons de Gynécologie opératoire. Par Vulliet et Lataud . . . 470
The Pathology and Treatment of Displacements of the Uterus. By Dr. B. S. Schultze. 471
Rogers (W. R.), remarks in discussion on Dr. Bantock's case of uterine fibroma 303
Routh (C. H. F.), remarks in discussion on Dr. Bantock's case of removal of the appendages for fibroid tumour and hæmorrhage 4
— — in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 54
— — in discussion on Dr. Savage's case of purulent peritonitis . . . 67
— — in discussion on Dr. R. T. Smith's case of fibroid treated by electrolysis 70
— — in discussion on Dr. Inglis Parsons' paper on the action of the constant current on fibroid tumours 165

PAGE
Routh (C. H. F.), remarks in discussion on Dr. Bantock's specimens of diseased uterine appendages 186
— — in discussion on hermaphrodite exhibited by Dr. Fancourt Barnes 208, 211
— — in discussion on Dr. Bantock's case of uterine fibroid . . . 234
— — in discussion on Dr. Fancourt Barnes' case of chronic inversion of the uterus. 261
— — in discussion on Dr. Bantock's case of uterine fibroma. . . . 302
— — in discussion on Mr. Lawson Tait's paper on the influence of the removal of the uterus and its appendages on the sexual appetite . . 315
— — in discussion on Péan's operation for the removal of a fibroid uterus . 321
— — in discussion on Dr. Fancourt Barnes' case of calcified fibroid tumour 430
— — in discussion on Dr. Bantock's case of ovarian tumour with twisted pedicle 438
— — in discussion on the President's case of uterine polypus . . . 451
— — in discussion on Dr. Savage's case of pyosalpinx . . . 454, 459
Rutherfoord (H. T.), fibroma of the nympha (shown) 447
— fœtus with meningocele (shown) 447
— hydrastis canadensis, the treatment of hæmorrhage in uterine fibro-myomata by 263
— remarks in reply 271
— infantile uterus (shown) 231
— remarks in reply 233
— notes of a case of uterine fibroid treated by electricity 323
— remarks in reply 335
— remarks in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 41
— — in discussion on Dr. R. T. Smith's case of fibroid treated by electrolysis 70
— — in discussion on Dr. Fancourt Barnes' case of calcified fibroid tumour 432
— — in discussion on Dr. Fenton's syphon arrangement for washing out the abdominal cavity 441

SAPONARIA as an emmenagogue (Blumensaadt) 479
Salines in peritonitis following abdominal section (Baldy) 124
Salpingitis and ovaritis (Cornil and Terrillon) 378
— interstitial (Boldt) 149
Sarcoma of the ovary (F. A. Purcell) 353
— — — — with half twisted pedicle (Nelson) 394
Savage (Thomas), on purulent peritonitis 66
— remarks in reply 69
— pyosalpinx and cystic ovaries (shown) 453
— remarks in reply 461
Sexual appetite, note on the influence of the removal of the uterus and its appendages on (Lawson Tait) 310
Significance and localization of pain in pelvic disease. (Coe) . . . 291
Sinclair (W. Japp), on gonorrhœal infection in women (review) . . . 121
— remarks in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 43
— — in discussion on pyosalpinx 460

PAGE
Smith (Heywood) appendages removed for chronic disease (shown) . . 445
— automatic douche (shown) 69
— fir cone removed from vagina (shown) 336
— pyosalpinx and hæmatosalpinx (shown) 69
— remarks in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 61
— — in discussion on Dr. Inglis Parsons' paper on the action of the constant current on fibroid tumours 158
— — in discussion on Mr. Lawson Tait's case of ruptured tubal pregnancy . 183
— — in discussion on Dr. Bell's paper on intra-uterine medication . . 201
— — in discussion on hermaphrodite exhibited by Dr. Fancourt Barnes . 211
— — in discussion on Dr. R. T. Smith's paper on cystic disease of the cervix 256
— — in discussion on Dr. Fancourt Barnes' case of chronic inversion of the uterus 262
— — in discussion on Mr. Lawson Tait's paper on the influence of removal of the uterus and its appendages on the sexual appetite . . . 315
— — in discussion on Dr. R. T. Smith's case of dermoid tumour of the ovary 319
— — in discussion on Péan's operation for the removal of a fibroid uterus . 322
— — in discussion on Dr. Inglis Parsons' case of vicarious menstruation . 349
— — in discussion on Dr. R. T. Smith's case of ovarian tumour with twisted pedicle 369
— — in discussion on Dr. Fancourt Barnes' case of calcified fibroid tumour 431
— — in discussion on Dr. Fenton's syphon arrangement for washing out the abdominal cavity 440
— — in discussion on Dr. Purcell's case of sarcoma of the breast . . 443
Smith (Richard T.), cystic disease of the cervix and endometrium . . 248
— cysts removed from the labia minora (shown) 6
— remarks in reply 7
— dermoid tumour of the ovary (shown) 318
— fibrous tumour of uterus removed by abdominal section after treatment by electricity without benefit (shown) 69
— remarks in reply 71
— ovarian tumour with twisted pedicle (shown) 366
— remarks in reply 370
— remarks in discussion on the blood-cyst of the ovary exhibited by Dr. Bantock 5
— — in discussion on Dr. Savage's case of purulent peritonitis . . . 68
Spanton (W. Dunnett), remarks in discussion on Dr. Fenton's syphon arrangement for washing out the abdominal cavity 441
— — in discussion on Dr. Purcell's case of sarcoma of the breast . . 443
Steavenson (W. E.), remarks in discussion on Dr. R. T. Smith's case of fibroid treated by electrolysis 70
Sterility and dysmenorrhœa, the relative effects of electrolysis and rapid dilatation in the treatment of. (Fry) 148
Super-involution of the uterus following tracheorrhaphy. (Hardon) . . 479
Sutton (J. Bland), on ovarian cysts 356, 352
— report on Dr. Bantock's specimens of ovarian dermoids 235

PAGE
Sutton (J. Bland), remarks in discussion on specimens exhibited by Dr. Bantock 5
— — in discussion on the cysts of the labia minora exhibited by Dr. R. T. Smith 6
Symphysis pubis, fracture of the, during parturition. (Faux) . . . 418

TAIT (LAWSON), a case in which ruptured tubal pregnancy occurred twice in the same patient 178
— a research into the coincidence of ovulation and menstruation . . 89
— double pyosalpinx (shown) 307
— — — — 457
— fibro-cystic tumour of the uterus (shown) 351
— instrument for reduction of inversion of the uterus (shown) . . . 309
— note on the influence of the removal of the uterus and its appendages on the sexual appetite 310
— remarks in reply 316
— ruptured tubal pregnancy (shown) 306
— — — — — 458
— two cases of extra-peritoneal cyst, with a tubercular condition of the tubes (shown) 307
— remarks in discussion on Dr. Aveling's paper on the diagnosis and treatment of early extra-uterine gestation 37, 44, 58
— — in discussion on Dr. Savage's case of purulent peritonitis . . . 67
— — in discussion on Dr. R. T. Smith's case of electrolysis . . . 70
— — in discussion on Dr. Bantock's specimens of diseased uterine appendages 187
— — in discussion on hermaphrodite exhibited by Dr. Fancourt Barnes 206, 210
— — in discussion on Dr. Alexander's method of treating incontinence of urine in the female in cases hitherto considered to be beyond the resources of surgery 229, 230
— — in discussion on Dr. Bantock's case of uterine fibroma . . . 303
— — in discussion on Dr. Bantock's case of ruptured tubal pregnancy 343, 344
— — in discussion on Dr. Inglis Parsons' case of vicarious menstruation . 349
— — in discussion on Mr. Bland Sutton's report on ovarian cysts . . 352
— — in discussion on Dr. Heywood Smith's case of removal of the appendages 446
— — in discussion on the President's case of uterine polypus . . . 451
— — in discussion on Dr. Savage's case of pyosalpinx . . . 455, 462
— — in discussion on Dr. Bantock's case of supra-vaginal hysterectomy for fibroid tumour 465
Travers (William) remarks in discussion on Dr. Fancourt Barnes' case of calcified fibroid tumour 432
— — in discussion on Dr. Fenton's syphon arrangement for washing out the abdominal cavity 440
Treasurer's report for 1888 (Bantock) 467
Tubal pregnancy, a case in which, ruptured, occurred twice in the same patient (Lawson Tait) 178
— — intra-ligamentous (Eastman) 421
— — (Doleris) 418

Twisted pedicle, case of ovarian tumour with (R. T. Smith) . . . 3
— — — — — — — — (Bantock) 4

URETER, exploration of the female. (Schultz) 3
Ureters, palpation of the, in the female. (Kelly) 4
Urethrocele, the cause and treatment of. (Emmet) 4
Ustilago Maydis as an oxylaxic. (Dorland) 14
Uterine appendages, removal of the. (Dixon) 15
— sedative, an emmenagogue. (Cordes) 47
— versions and flexions, notes on. (Jacobi) 2
Uterus, a case of inversion of. (Le Fort) 38
— a case of total absence of; vagina normal. (Steinshneider) . . . 12
— anteversion and anteflexion of the, during labour. (Remy) . . . 38
— artificial dilatation of, as a means for evacuation of cysts of the Fallopian tubes. (Berruti). 415
— double and vagina. (Dunning) 47
— fibro-cysto-sarcoma of the. (Fenger) 39

VAGINA, case of congenital absence of the, with retention of menstrual fluid. (McMurray) 283
Vaginal antisepsis. (Verchere) 292
Vaginal hysterectomy, for carcinoma of the cervix, four cases. (Fenger) . 131
— — (Pozzi) 416
— — total. (Secheyron) 428
— — the pressure forceps *versus* the suture and ligature in. (Dudley) . 484
Vesical calculus, large. (Pozzi). 382
Vicarious menstruation, a case bearing on. (Inglis Parsons) . . . 347
Vomiting of pregnancy and menorrhagia. (Meredith) 488
— paraldehyde in obstinate. (La Moure) 487
— severe in pregnancy. (Graily Hewitt) 485
Vulvar tumour, some rare forms of. (Manton) 130

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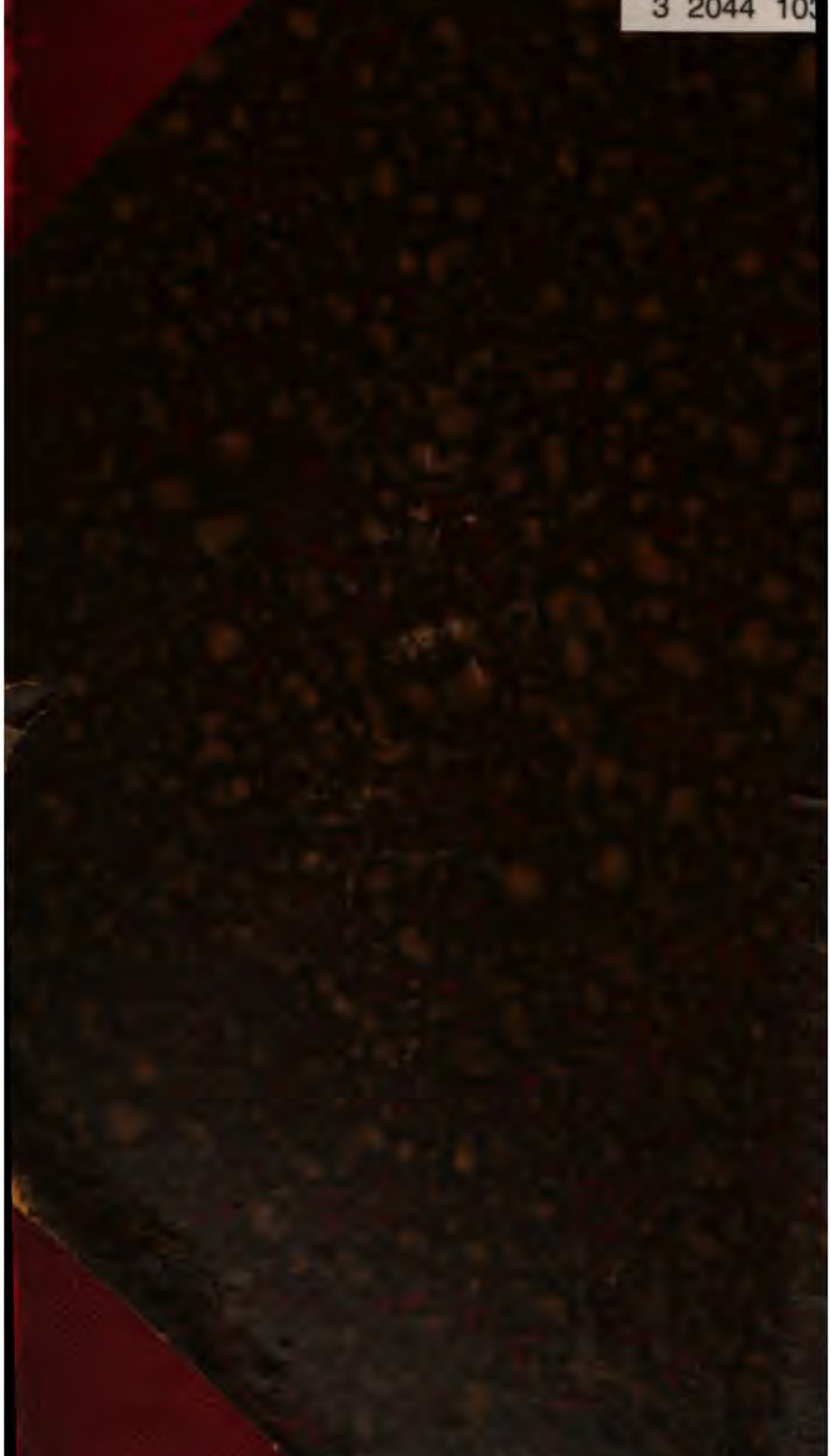
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